JOURNAL
OF
CALENDAR REFORM

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Published by
THE WORLD CALENDAR ASSOCIATION
485 Madison Avenue, New York City
ELISABETH ACHELIS, *President*

VOL. V OCTOBER, 1935 No. 3

MEXICAN OFFICIAL REPORT

(Abstracted from the Spanish by E. H. Martinez)

In preparation for the quadrennial conference in Geneva next spring of the section of the League of Nations which deals with calendar reform, the Mexican government ordered an official study of the subject, in order to define the position which the Mexican delegates should maintain at that meeting. The report of this study has just been published, under the authority of the Federal Executive power, through the Secretary of Agriculture and Development. It is signed by Felipe N. de Parres, director of Meteorology; Manuel Medina, chief of the Geographical Institute, and Pastor Rouaix, director of Geography, Meteorology and Hydrology. The official government commission which advocated Mexican approval of calendar reform includes the Ministers of Education, Foreign Affairs and Economics.

IN APPROVING fully of calendar reform and of the plan generally known as The World Calendar, we submit that its acceptance will be of benefit to Mexico, and that it will enable this country to cooperate internationally in making the proposals for such a reform assume a universal character which is required to make them effective.

For Mexico the case for calendar reform may be summed up in the following points:

(1) It is a fact that the irregularities and abnormalities of the present calendar cause difficulties and inconveniences which make correction advisable.

(2) The proposed reform does not unduly disturb the present year,

merely rearranging the months within it so that abnormalities are reduced to a minimum.

(3) There are distinct and important advantages to the introduction of a special "Year Day" in all years and another extra day in leap years, reducing the nominal year to 364 days, in order to make the calendar perpetual and secure the ends desired.

(4) Division of these 364 days into 13 months is unnecessary, particularly as such a division prevents easy divisibility of the year into equal quarters and breaks the traditional and convenient 12-month system. The other proposed solution, known as The World Calendar, is less drastic and offers advantages equally effective.

(5) This plan, while retaining the 12-month division of the year, groups the months into cycles of 31, 30 and 30 days, obtaining in this way an absolute equality of the four quarters of the year with 91 days in each quarter, and also a relative equality of all the months, since all will contain 26 weekdays and the only difference lies in the fact that the first month of each quarter has an additional Sunday.

It should be noted that no study has been made by us of the religious phases of calendar reform, for the reason that in Mexico there exists an absolute separation of church and state. The religious side of the matter, however, has been taken into consideration by the League of Nations, which states that no insurmountable difficulties have been found in the way of the proposed reform.

Special Conditions in Mexico. In analyzing the various sectors of Mexican life and activity in connection with proposals for calendar reform, it is found that the multiple national factors which are involved can be grouped into two classes: First, those having a typical character of their own, created by Mexican methods and special practices which differentiate them completely from similar activities in other countries; and, second, those which are only simple adaptations to our ways, methods and procedures, of practices which are either universal or foreign in origin.

Chief among the first group is Mexican Agriculture, which, in spite of the efforts made to improve it and transform it, continues in general to use elementary and rudimentary methods. Alongside it, in the same grouping, are a number of small industries entirely typical, such as those dealing with ceramics, palm, wood fibre and stone.

Both in agriculture and in these small industries, it is customary to pay wages weekly. From the viewpoint of the payroll the proposal of the 13-month calendar would not be unsuitable, for this plan gives great predominance to the weekly unit. But it must be taken into consideration, also, that in farming the normal term of operations extends over a long period of the year, up to the harvest, and that balances and profits cannot

be computed or realized until the product has been marketed. Fom this viewpoint the importance of the week diminishes, and the quarterly or seasonal division of the year becomes more important. It must likewise be remembered that the closest of all calendar relationships join the farmer with the seasons of the year and with the time-periods used for commercial operations dealing with farm products. The same relationships apply also, with varying force, to the small Mexican industrialists.

Among the second group of elements in Mexico which are to be considered in this matter of calendar reform—those which are not typically national, and which embrace all national activities except those mentioned above, including even many which in the past have been national in character but have been weaned away from their typical Mexican individuality by the adoption of foreign procedures and methods—the viewpoint which must be taken toward them is that we must profit by the experience and opinion of other nations and seek to be cooperative with the outer world, just as we have done in adopting universal types of machinery, methods, systems and practices.

Owing to geographical, political and economic reasons, there is one nation which exercises a preponderant influence in Mexican life, namely, the United States. As far as calendar reform is concerned, it is advisable for us to make the utmost use of the studies, labor and promotional efforts which have been developed in this neighboring country, since in practice they are closely applicable to our general requirements.

In the United States, it is clear that opinion is well defined in favor of the proposal for a revised 12-month year, rather than for a year of 13 months. From Washington we learn that the scientific bureaus most closely related to time problems—namely, the Time Division of the Bureau of Standards, the Naval Observatory which issues the official nautical almanac, the Bureau of Marine Navigation, etc.—are openly adherents of the 12-month equal-quarter plan, and are opposed to the 13-month.

This official support for the so-called World Calendar is reinforced by a great volume of opinion from leaders of public opinion in the United States—legislators, bankers, merchants, farmers, educators, aviators and astronomers. The professional societies and groups which have studied calendar reform are also predominantly in favor of this proposal. We may sum up the opinion of these guides to American opinion as follows: *The World Calendar is the most practical, economical, simple, orderly and efficient method for remedying the defects of the old calendar. The plan for a 13-month year is violent, confusing, stupid, impractical and costly.*

Let us for a moment examine the arguments against a 13-month year. 1. Under this system it would be impossible to make an exact and convenient division of the year into quarters and halves, a division which has for generations proved essential to business and science. 2. The

transition to a 13-month year would be a protracted period of confusion and disarrangement, as, for example, in all statistical compilations and tabulations. 3. Comparison of present and past would become a matter of guesswork as a result of the variations between compared periods and the displacement of the seasonal divisions of the year. 4. There would be a definite and measurable increase in many items of cost and expense—such as in all monthly business operations, rent collections and payments, meter readings; in Mexico there would be an 8 per cent increase in charges for tax stamps and document costs. 5. Far-reaching legal adjustments would be required in contracts, leases, interest payments, etc.

The only advantage alleged in favor of the 13-month plan which does not exist to the same degree in the 12-month equal-quarter plan is that which makes each month exactly divisible into four weeks. But this emphasis on the week is completely offset by the fact that it sacrifices entirely the far-reaching convenience of dividing the year into four equal quarters, which is highly important in business, finance, government, education and social life.

Defenders of the 13-month plan have attached an exaggerated importance to the fact that a number of American business firms have adopted a 4-week period of internal business accounting. It can easily be demonstrated that any organization interested in maintaining such a 4-week period can do it perfectly within the structure of the 12-month equal-quarter year, gaining every advantage that would come from the rather extravagant effort to impose this same period on all the rest of the business world. (It should be noted that only about 500 of the 2,000,000 business organizations in the United States have indicated any preference for the 4-week accounting system.)

The most conclusive argument against the 13-month proposal remains to be stated. The calendar is not merely a system of time measurement designed by accountants and economists for measuring commercial units, comparing mercantile registers and tabulating financial and industrial data. It is also a fact in human life, having its bearing on every person, whatever his race, situation or intelligence. The whole life of humanity moves in a rhythm which is attuned to the calendar: the daily life of every one of us is subordinated to the order which is indicated by it. There exists unbreakable bonds between the calendar and the acts, emotions and feelings of all humanity: therefore if the problem of calendar reform is to be solved practically, those who lead the movement must take into full consideration the traditions, conveniences and susceptibilities of the common man. From this viewpoint, the 13-month year proves to be impossible.

MEMORANDUM TO VATICAN

(Communicated by the Rational Calendar Association, London)

IN ORDER TO explore in the most thorough manner possible the attitude of the Vatican and the central authorities of the Roman Catholic Church to proposals for a fixed Easter date and Calendar Reform, a Mission of Inquiry, organized by the Rational Calendar Association of London, visited Rome during the month of June, 1935. The Mission was supported by letters of delegation from The World Calendar Association, the Latin-American committees on Calendar Reform, the Bureau d'Etudes of Paris, and the Gesellschaft für Zeitgemässe Kalenderreform of Berlin.

At the head of the Mission was the Right Reverend Fernand Cabrol, Abbot of St. Michael's Abbey, Farnborough, England, one of the leading authorities of the Roman Church on all matters of liturgy and discipline, and himself an ardent supporter of a fixed Easter in a reformed 12-months calendar of equal quarters.

As a result of the inquiries made in Rome, the Mission came to the following conclusions:

1. The subject of calendar reform is under constant consideration at the Vatican, and close observation is being kept of the movement for reform throughout the world.
2. The subject of calendar reform is viewed by the Vatican as a whole, and the question of Easter stabilization cannot be detached from the question of general reform.
3. Before any action by the Holy See can be contemplated, it is in the highest degree desirable that unity should be established between the advocates of differing methods of reform, or, failing unity, the expression of an overwhelming opinion in favor of one system.
4. Such agreement upon a definite method of revision should have formal approval from the leading governments which, through the League of Nations, have already pressed for reform. If such an agreement is reached, and the Nations were to present the Holy See with a request that the Holy Father should examine the question, it is probable that the request would be welcomed. But until such agreement has been reached on a definite plan, it would be unwise for the League or governments to again approach the Holy See for an official decision.
5. It is desirable to make clear that the demand for calendar reform is not prompted by any sectional interests, but is universal.
6. The Mission satisfied itself that opinion in the Vatican is in favor of a 12-month system, and is averse to a 13-month year.

Through the good offices of Father Cabrol, a Memorial in Latin expressing the desire of civil communities for calendar reform and containing the proposals of the Rational Calendar Association, supported by The World Calendar Association and other committees, was presented at the Vatican, and was placed on record in the official archives of the Church.

The following is a translation of this Memorial, the Latin text being appended as a footnote on the next page:

"ON THE REFORM OF THE CALENDAR. Throughout all Christian nations today is spread a strong desire for a reform of the Gregorian

Calendar. Its present irregularities and inequalities disturb all forms of trade and business, and the work of the professions and of government is dislocated by the anomalies caused by the fluctuations of the movable feasts and the variations in the lengths of the months. There is general agreement that the world's work would be benefited by a perpetual calendar year in which all dates recurred always on the same days of the week, and in which the months and quarters were of equal length.

"In consequence a number of societies and associations have been formed for the promotion of this reform in all parts of the world. The principal are the *Rational Calendar Association* of London, the *World Calendar Association* of New York, the *Bureau d'Etudes pour la Reforme du Calendrier* of Paris, and the *Gesellschaft für Zeitgemässe Kalender reform* of Berlin, together with Committees in Latin-American countries. It is on behalf of these organizations, among whose members are numbered many Catholic Bishops, that the Right Reverend Abbot of Farnborough has come to Rome.

"All the above-mentioned organizations are agreed on the measure of reform to be aimed at. In brief, they desire firstly the stabilization of the date of Easter for all time upon a Sunday in the first half of April,

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DE KALENDARIO REFORMANDO. Diffunditur per totas Christianorum civitates Kalendarii Gregoriani reformandi magnum studium et strenuum. Tam incommodant omnibus qui negotia vel artes agunt Kalendarii inaequales pravique motus, quam perturbant doctores magistrosque et ceteros qui rem publicam omnino dirigunt anomaliae ..... quae vel e mobilium feriarum fluctibus vel e variis mensium cursibus exoriantur. Constat enim inter omnes ut omnibus beneficio sit talis anni fastorum ordo qualis eo faciat ne ulli fasti feriaeve incidant nisi iisdem per annos diebus neve menses ceteraeque anni divisiones aliae aliis enormitate quaquam praestent.

Quo studio nuper incitati. Societates Sodalitatesque quasdam ad Kalendarium reformandum tendentes instituerunt. Primae inter haec praestant *Rational Calendar Association* britannica, *World Calendar Association* americana, *Bureau d'Etudes pour la Reforme du Calendrier* gallica, *Gesellschaft für Zeitgemässe Kalenderreform* germanica et non nulli per Latinam Americam diffusi comitatus. Pro his Societatibus inter quas complexi sunt complures Episcopi Catholici, Romam advenit Reverendissimus Farnburgensis Abbas.

Quo modo reformandum sit Kalendarium omnis quaeque societas consentit. Breviter, primo desideratum est Pascam ita statui ut in saecula teneat Diem in primi mensis Aprillis dimidio Dominicam, deinde unam anni cuiusque diem e diebus hebdomadis excipi quae anno concluso incepto nondum proximo intercalaris fiat.

Multa intendit haec de re Pascali ratio. Dicitur enim apud laicos quod si huius diei festae ablatus esset fluctus, non superessent multa plurimis qui negotia vel mercedem agant incommoda, atque exactior fieret ratio negotiorum inter gentes vel inter civies actorum computanda (quae scientia statisticorum comparativa dicitur) et certiora tribunalium et scholarum tempora constitui possent quam hodie dum per XXXV dies vagatur festum illud. Quibus etiam rebus reputatis Gentium Societas, "Omnibus beneficio erit" affirmavit "non movendas esse ferias."

Plurimi harum societatum sodales qui multam operam dederunt rebus ecclesiasticis, sentiunt Pascam invariabilem ex Ordine Christiano tollere posse iniquum usum qui non in doctrina originali inhaerescat atque in Kalendarium Ecclesiae interpositus sit rationis causa hodie infirmatae. Consentiunt de hoc et Ecclesiae Protestantes Occidentales et Ecclesia Orthodoxa Orientalis eo ut quod tot consentiunt praemonstrare videatur (magnopere vero sperandum est) omnes Christianas Communitates se conjuncturas.

Tam vehementer desiderabat pascam non moveri posse gens britannica ut anno salutis MCMXXVIII senatus (qui *English Parliament* dicitur) eo consilio legem perferre voluit. Quae lex nondum decreta est, quamvis ab omnibus desiderata, quod Ecclesia Catholica nondum eidem consilio assentivit.

Similiter etiam beneficio communi atque Christianorum concordiae fore unum diem e diebus hebdomadariis excipi. Qui hunc usum petunt, ceteros CCCLXIV dies anni per LII spatia septem dierum numerari posse intendunt ita ut quemque annum Dies Dominica inducat et omnes cuiusque mensis fasti in iisdem hebdomadis diebus incidant. Quo modo Kalendarium in saecula constituetur.

Non tamen opus est Ecclesiae huic usui de die excipiendo studere, laicis enim tantum referre potest. Sed omnes paratiori animo vit accipient festum arbitrio Ecclesiae decretum. Intuita nulla Christianorum Communitas repugnare (exceptis eis qui *Seventh-Day Adventists* dicuntur), immo vero laudans optare coram populo Ecclesia Americana Episcopalis voluit.

Facillime, dicitur, uterque usus in anno salutis MCMXXXIX inire potest quia annum illum Dies Dominica inducet. Proximo etiam anno apud Gentium Societatem civitatum legati de his rebus decernere debent. Quae cum ita sint, hodie consilio vero magnum est opus.

and secondly the detachment of one day in every year from the days of the weeks, and its intercalation between the end of one year and the beginning of the next.

"The stabilization of Easter is desired on many grounds. From the lay point of view, it would remove many inconveniences to trade and industry. In particular it would make possible the accurate compilation of comparative statistics of national and international trade, and it would enable the dates of school and court terms to be permanently fixed instead of varying from year to year in accordance with the 35-day fluctuation of the feast. After a thorough examination of all these considerations, the League of Nations has stated that 'the common good calls for the stabilization of movable feasts.'

"Among the members of the societies advocating this reform are many serious students of religion who feel that the stabilization of Easter would remove from the Christian Ordo an anomaly which has no basis in true doctrine and was only incorporated in the practice of the Church for reasons which are no longer valid.

"Upon this point all the Protestant Churches of the West and the Eastern Orthodox Church are agreed, and it is felt that this reform would further the great cause of Church union.

"So great is the desire of the people of Great Britain for this reform that in 1928 the British Parliament passed an Act to introduce it. That this Act has never come into force is due solely to the fact that the Roman Catholic Church has not given its assent to the reform.

"The proposal to set aside one day out of the days of the week is similarly intended for the general benefit of mankind and the promotion of Christian unity. Its purpose is to enable the remaining 364 days of the year to be divided into 52 whole weeks, so that every year should begin on a Sunday and all the dates of the months fall always on the same days of the week. By this means a perpetual Calendar would be established for all time.

"This proposal is not necessarily of prime concern to the Church; it need only affect lay interests. But it would obviously be more acceptable to public opinion if it were accorded the sanction of the Church's authority. No Christian Community that has studied the question has found any objection to the proposal (with the exception of the Seventh-Day Adventists), and the Episcopal Church of America has expressed its official approval of it in the strongest terms.

"Both these measures of reform can most easily be introduced in 1939 when the year will begin on a Sunday. Next year delegates to the League of Nations are to be called upon for a decision. There is therefore great need today for the Church's guidance."

DR. FRICK AND THE REICH

By ERLAND ECHLIN

Secretary, Rational Calendar Association of Canada

Germany's interest in calendar reform was suddenly stimulated in June by an official announcement, printed prominently in every important German newspaper, that the Minister of the Interior had received a representative of the calendar reform movement, and had given the unqualified approval of the government to the plan for a new calendar.

HAVING been invited in June to lecture at the University of Berlin on the world movement for a new calendar, I took occasion a few days before the lecture to arrange a meeting with Dr. Frick, Minister of the Interior, who would be the authoritative spokesman for the present German government on this subject.

I had previously been in contact with the important voluntary organizations in Germany which are advocating a revision of the calendar, including the influential Chambers of Commerce, the members of the national committee which represented Germany at the international calendar conference in 1931, the Kiel Welt-Bund, and a Berlin committee which has done some valuable work.

Advocacy of calendar reform is not new in Germany. In fact the Kiel committee headed by Dr. Rudolf Blochmann has been in continuous existence for more than 30 years, and this antedates by nearly 25 years most of the other existing committees throughout the world. Dr. Blochmann's group bears the impressive title "Welt-Bund fur Kalenderreform," and it has a large and still-growing membership, actively engaged in urging the adoption of a simplified calendar of 12 months, which differs in no essential detail from the plan recognized today as The World Calendar. Through war, revolution, inflation and Social-Democratic republicanism, Dr. Blochmann's work has gone on, persistently and effectively.

Interest in calendar reform in Germany formerly extended to the scheme for a 13-month year. Several important industries tested out the plan for keeping their accounts and business records on a 13-period basis. The Eastman Kodak factories in Germany, which were the original sponsors of the plan, still use it.

After the initial studies of the subject by the League of Nations had been completed in 1923, official committees were appointed by the German government to examine all plans for calendar reform. Eight years later, in 1931, the German government participated in the League's international conference, which formally discarded all impractical plans for a new calendar, and officially narrowed the choice to two plans, the 12-

month equal-quarter plan known as The World Calendar, and the 13-month plan. The German official committee fully concurred with this action.

No definite choice, as between these two plans, had been made by Germany when the whole political structure of the country changed in the early spring of 1933. The committee which had been appointed by the former government, ceased to function, and as far as the new government was concerned no official recognition was given to the world movement for a new calendar.

In 1933 I spent the greater part of the year within the borders of the new Reich. Dr. Blochmann's League, I found, had carried on its work, in spite of the apparent lack of attention from the government. I helped inaugurate a parallel association in Berlin the Gesellschaft fur Zeitgemässe Kalenderreform under Dr. Aust. During 1934, this new group, advocating The World Calendar in its entirety, gained the notice of important political, business and clerical leaders.

On my return to Berlin this year, I determined to discuss the world movement and its relation to the German associations with the Minister of the Interior. With the many new ideas that Germany is bringing into the political and economic sphere, I felt sure that Dr. Frick's department would have more than a passing interest in calendar simplification. This view proved to be correct.

The Ministry is housed in the old red brick and stone building in the Konigsplatz formerly used by the Great General Headquarters staff of the Army. Then the first floor was occupied between campaigns by the great strategist, Field Marshal von Moltke. While waiting for the Minister, I looked through the old General's rooms, full of pre-war relics, now preserved as a museum.

Although I had not met Dr. Frick before, I knew a good deal about him. One of the early Nazis, a lawyer by profession, he had been a soldier, police-commissioner, politician and Cabinet Minister of Thuringia, before Hitler's advent to power. Now 58, he is the oldest member of the present cabinet — a Roman Catholic, slender, smooth shaven, cropped, calm and, I should say, extremely sincere. Dr. Frick is a warm friend and close confidant of Adolf Hitler.

On being shown into a comfortable corner of his big office overlooking the little park around the Victory Column, I explained briefly the object of the calendar reform movement and its growing strength throughout the world. I asked what consideration such a plan would receive in the New Germany and he confirmed the view that led to the interview.

"It would be strange indeed if Germany, advanced in so many other directions, neglected calendar reform," he said. "We are trying to simplify life for our people; The World Calendar plan seems to be directly along

those lines." It soon appeared that Reichsminister Dr. Frick knew most of the points I had come to discuss.

"In fact," he said, "I can consider myself the father of calendar reform in Germany, for already, in coordinating the different festival dates of the old political divisions, I have taken the first simplifying step in connection with the calendar." Dr. Frick expressed himself as firmly in favor of a fixed Easter and the whole principle of calendar revision,—to gain certain simplifying and stabilizing advantages, *providing the established number of months remains unchanged.*

His emphasis on this latter point will be easily understood by those who have followed the course of the new regime. For national, cultural and political purposes the ancient German names of the 12 months have been revived,—names like Seed-Month, The Harvest, Ice-Month. Farmers and those connected with the land have been encouraged to use these names within the limits of their own business. The addition of another month name—which would be necessary with the awkward 13-month plan—is unthinkable.

"I am in favor of a simplified calendar," Dr. Frick continued, "but until our people are better educated to the subject I would suggest that the movement remain in private hands."

"Will you consider appointing an official committee when the time for action arrives?"

The Reichsminister said that he would be glad to appoint such a body. Further, he suggested calling an international conference for discussion, indicating that he would have qualified and important representatives there. In closing, he expressed his appreciation at the opportunity he had had of expressing his views. Dr. Frick said that he was interested in the movement, approved of it in principle, and would like to be kept informed of its progress in Germany and throughout the world.

Our conversation had taken about 20 minutes. After some other topics were discussed, he bade me a cordial farewell and invited me to return at any time. I left with a clear feeling that The World Calendar had the approval of the new government.

The following official account of the interview appeared on the front pages of several hundred German newspapers on June 9, 1935:

> The Reich's and Prussian Minister of the Interior, Dr. Frick, received the Canadian writer, Erland Echlin, and discussed with him, in the course of a long interview, the important question of calendar reform. Mr. Echlin asked Dr. Frick as to Germany's attitude toward the introduction of the so-called World Calendar, a plan aiming at a perpetual calendar in which the relationship of week-days and month-days would be stabilized, to be adopted uniformly by all nations.
>
> Dr. Frick said that undoubtedly The World Calendar would be of great advantage, especially to business. Certainly Germany would not shut her eyes to the importance of such a new regulation and stabilization of the days and dates which make up the calendar.

He added that although the enactment of the new calendar was an official task, to be done by an international conference of governments, he felt that for the time being the advocacy of the reform should be left to private and unofficial agencies.

Dr. Frick pointed out that the German government during the past two years had given calendar questions a good deal of attention, and had actually undertaken certain minor reforms, such as a uniform program of holidays throughout the Reich."

This then provided the introduction to my lecture at the University of Berlin. In it I tried to show that any change of our present system of time measurement must be gradual and must retain our familiar months, weeks and seasons. I did not give much time to the discussion of the 13-month scheme, owing to the improbability, under the new cultural system, of it even being considered.

In Germany calendar reform appeals with peculiar force to an order-loving people. Through long years of the various associations and committees, and privately, it has had deep study.

Most Germans feel that with the direct encouragement of Reichsminister Dr. Frick the whole proposal has been lifted to a practical plane. The immediate result will not improbably be that Germany will associate herself officially in this movement with Great Britain, and with the forward-looking nations of South America whose governments have taken the first official measures to facilitate simplification of the calendar.

BUSINESS ARGUMENTS

By CHARLES D. MORRIS

(From a Report Published in "Marking Devices," a Magazine of Business Machinery)

MANUFACTURERS of business machinery are following with keen interest the progress which is being made throughout the world toward the revision of the present calendar. Advocates of revision point out that the irregularities and inefficiencies of the existing calendar result in certain definite inconveniences and loss to all those who use it, and that the adjustment of these age-old defects would result in important economies in time and money.

Savings will inevitably come from an improvement in this universal standard of measurement. The savings are not only in dollars, but also in time, and are accompanied by obvious efficiencies in accuracy and convenience. There will be economies in bookkeeping, accounting, statistics and similar operations. Less easily calculated are the more intangible improvements which will result in practically every phase of human endeavor.

Not only will the new perpetual calendar obviate the "adjustments" that are now continually necessary in comparisons of time periods for successive years, but also it will produce a natural and easy divisibility within the year, owing to the fact that days, weeks, months and quarters synchronize, thus facilitating the assembling, study and comparison of reports, records and data of all kinds.

Revision of the calendar, however, is not purely or even mainly a business matter. From a larger outlook, including statecraft, education and religion, the calendar no longer meets the various demands made upon it. The present calendar is a time waster; the new calendar is a time saver—whether examined from the viewpoint of transportation, industry, science or social and cultural activity. The new plan represents a long-delayed stage in the evolution of the world's system of time measurement, matching the progress which has been made in other fields.

PITY THE POOR EDITOR

By G. K. Dahl

Editor of "World Convention Dates," Hendrickson Publishing Co., New York City

WHAT the clock is to the daily newspaper reporter, the calendar is to the editor of a monthly magazine. Of the two writers, the former is far more fortunate in terms of regularity of routine: eleven o'clock never varies in its relationship to the important time-points of breakfast and luncheon, and the working-period from nine o'clock assignment to first edition is eternally the same.

But consider the poor magazine editor. Whether he schedule his deadline by a certain day of the week—such as the third or fourth Friday of the month—or by the date, the point is always roving. The mailing date for my publication, for instance, is the 28th of the month, so chosen because it facilitates getting copies into subscribers' hands by the first. During 1936, this date will roam so madly across the calendar that it will cover every day in the week. Conversely, if we fixed upon the final Friday of each month, for instance, it would fall on every date from the 26th to the 31st, inclusive. Since the final Friday in December happens to be Christmas, mailing day that month would have to be the 24th.

Of course, mailing day is only one of the "deadlines" which the magazine editor and publisher must observe. Most periodicals pay heed to a number of them: in our own case, we have a deadline for editorial text, usually the fifteenth of the month; two days later comes another for statistical material, which is always recorded "as of" the 17th. There are two deadlines for advertising; one for receipt of cuts and copy, and the other a closing date beyond which no corrections or revisions can be made. Because of the shifting nature of our present calendar, the number of working days between the various closing dates and the final deadline for printing never is the same in any two months.

Like the steel industry, your typical magazine editor is always either prince or pauper, in terms of the commodity which concerns him most—publishable manuscripts. Obviously, the greater the number of working days which intervene between the last mailing date and the next editorial deadline, the more text he will have on hand. And here we come to a paradox: the more time that exists for preparation or solicitation of manuscripts, the less he will need. The reason for this lies in the fact that the longer months with the least inconveniently placed weekends and holidays also mean a longer productive period for the advertising and statistical departments. And the more they obtain in the way of results—up to a point—the less the editor will be called upon to provide.

The statistical objective of our paper is implied by its title, *World Convention Dates,* and consists of securing for advance publication the dates and meeting places of some 18,000 convention-holding organizations per year. Our Research Department obtains this information by questionnaire direct from the associations: one working day more or less in the period between two closing dates will entail a difference of 100 or more listings for this section of the magazine. These announcements run about 100 to the page: so one day over means one page less to be filled with text. Conversely, one page less of this data entails an extra page of editorial copy—and the chances in such a case are that there will be a downward fluctuation in advertising, with a concomitant need for still more additional text. These direct results of the unstable calendar must be taken into constant consideration when it comes to scheduling the work of the editorial department. There can be no "blank stages."

Of course, the statistical editors are bound as tightly to the calendar. The annual rise or fall of the convention market is the life-pulse of our publication, and it is the only gauge available to measure the tide of delegates and their expenditures (9,717,669 people will spend $769,000,000 at conventions, expositions and similar events this year, as compared with an expenditure of $400,000,000 by approximately four million delegates in 1933). So our research staff is on its toes to keep abreast of the events as they are scheduled. We do not like to have any month of the current year compare unfavorably—in terms of coming sessions scheduled in our pages—with the same month of the previous year. It is true that these months are the same in number of days (save in the case of February, which has an extra day every four years), but the number of working days fluctuates according to the position of the weekends and holidays. Furthermore, since conventions practically never are held over weekends, the number of them in any given month (with seasonal variations, of course) bears a direct relation to the number of Sundays.

Another way in which instability of the current calendar makes our peculiar statistical function difficult lies in the fact that most of our research activities are projected in time, by which I mean that the convention dates we are engaged in gathering and compiling usually are for meetings to be held from eight months to three years in the future. "We will meet during the third week in October, 1937," a secretary informs us: the same mail usually brings a card or two referring to "the second Tuesday of May, 1938," or "Tuesday of Easter Week," or "the Sunday immediately after Christmas, 1936." A calendar like the one proposed by The World Calendar Association would go a long way toward diminishing irritations in our Research Department: it would be the same for every year, and we could frame it and mount it permanently on the wall.

But if our rambling old calendar gums up the editor's work, just think

what it does to the printer! Periodical printing is a specialized branch of the art, and the typical shop turns out five or more monthlies, with a weekly or two, and a rotated succession of quarterlies. These must be scheduled over the month in such a way as to insure an unbroken continuity of work for the several departments affected: linotypes and "stone men" must move in synchronized relation to the presses, which in turn affect the bindery and the mailing department. Printing presses which can turn out 3,000 or more sheets of 16 pages each per hour represent a sizable investment, and they must not stand idle if they are not to "eat their heads off" in overhead expense. Makeready crews cannot function until the forms are locked in the chaises: idle man-time is as costly as idle machine-time. Rigid adherence to the schedule is of paramount importance. One publication "held over" a day makes everyone else late.

Your typical printer, who knows the failings of publishers and the faults of the calendar, seldom uses definite dates when speaking casually of the magazines he prints. "The *Ladle* goes on about the 5th, the *Ribbon News* about the 15th, the *Standard* on about the 21st." The *abouts* tell the story. If one publication maintains a rigid deadline, the others must be shifted in compensation. Two papers which go to press during the same week this month may be separated by a weekend when the deadlines roll around again. If one "goes to bed" (is put on the press) on Monday, and the other on Thursday, two working days lie between: but a weekend intervening means the loss of two days, for the five-day week is the rule in the greater part of the highly organized industry. The only answer is a night-shift, which consequently may be needed one month and not at all the next, which involves a management problem.

For those magazines which enjoy large-scale distribution and newsstand sale, the difficulties are complicated by the fact that publication may be from two to three months in advance of sale, and shipments to various points must be made with a weather-eye upon the calendar. The custom is to release them all for final sale on the same date every month—which involves many a headache for the traffic department.

Of course, the ideal calendar for editors and printers would be identical for all months of the year, which also would remain constant and unchanging forever. Then all our deadlines and mailing dates would fall on the same days of the week, month after month and year after year.

This objective has been accomplished by the sponsors of the 28-day calendar, in which every month begins on a Sunday, and all the months are the same. At first blush, it might appear to be the answer to the publisher's prayer. The cost of the identical-date convenience, unfortunately, far exceeds the advantages to be received from the introduction of such a calendar—for in order to keep the months alike, it has been necessary to change their number from the convenient twelve to thirteen.

It would be difficult to find any other industry or trade which would suffer so great a dislocation from any calendar reform involving a change in the number of months. Advertising is the life-blood of the publication field, and the twelve-time contract is the standard insertion order in the monthly field. If the 28-day calendar were adopted, the monthly publication would be forced to introduce a 13-time rate: the advertisers' reaction is conjectural, but since most advertising appropriations are made on a yearly basis, the logical course for them to follow would be to demand no change in the total rate. In short, they probably would require thirteen insertions for the present cost of twelve.

Faced with this resistance, the publisher might conceivably continue to issue his magazine on a twelve-time basis, but then it no longer would be a monthly. And if the readjustment to thirteen issues could be made, he still would suffer all the other disadvantages which the 13-month calendar carries in its train—such as the impossibility of dividing it into halves and quarters, to mention only one. But it is almost safe to predict that America's monthly press will steadfastly oppose the 13-month calendar.

The so-called World Calendar, on the other hand, presents a vast improvement over the present one, without any of the penalties inherent in the alternative scheme. Its twelve months are not all identical, but there are only three variations to contend with, instead of seven, as at present. The 28th, for instance, falls on Saturday in each of the four months of January, April, July and October. In February, May, August and November it comes on Tuesday. In the four remaining months—March, June, September and December—it falls on Thursday.

The publisher or printer who wishes to avoid a Sunday deadline, under The World Calendar, has plenty of dates to choose from—for of all the days in the month, only thirteen of them can possibly fall upon a Sunday. In an entire year, the only dates which come on Sunday are: 1, 3, 5, 8, 10, 12, 15, 17, 19, 22, 24. 26, 29. Our present calendar makes avoidance of Sunday deadlines impossible.

Retention of the traditional four seasons of the year constitutes another advantage of The World Calendar, from the periodical viewpoint. There are a few industries or businesses which do not move with a seasonal rhythm, which affects directly all trade or commercial publications—and indirectly all which derive their support from advertising, which, of course, means practically every one. Under the 13-month calendar we would still have Spring, Summer, Autumn and Winter, but it would be difficult to exploit them.

There probably are trades and callings to which calendar reform means little, if anything. Among these, for the reasons given, it is impossible to include the field of periodical publishing. We have nothing to lose—and everything to gain—from the change, and the sooner the better.

ANCIENT CHINESE TIMEKEEPING

By Elizabeth Crump Enders

Students of Chinese culture and history are familiar with Mrs. Enders's "Swinging Lanterns," now in its tenth edition. For eight years she was honorary librarian of the Royal Asiatic Society. She has spent the past fifteen years in China and has travelled more than 50,000 miles in the Celestial Empire. She is regarded both in Asia and America as one of the leading authorities on Chinese customs, family life and characteristics.

WHEN the Republican government of China in 1912 came to a realization that the existing almanac of the land was of an overcomplicated form, and officially abolished its use, it issued a proclamation ordering the adoption of the Gregorian Calendar.

The Chinese people, however—the hundreds of millions of toilers of the soil—intensely averse to change of any kind, continue to cling to the ancient almanac. Instinctively, they seem to feel that it is a part of their existence—that its roots reach deep into their primitive Nature Worship—and to this day they depend upon it entirely for their guidance in sowing, reaping, hunting and fishing. Also, for the dates of their numerous private festivals. In fact, *The Book of the Year* reaches the highest magnitude of yearly sales of any one book in the world.

Through the many generations of laborious watching of the heavens, their highly complicated almanac evolved. The "First Measure," selected by their earliest forebears, was the moon, and to this day, for both sentimental and practical reasons, they tenaciously follow the Lunar Calendar. Each month is comprised of twenty-nine or thirty days—the month always beginning and ending with the moon between the sun and earth (the dark, or new moon). The year, too, finds its first day with a new moon, and likewise its last. In two and a half equinoxial years there are 31 new moons, or about 62 in five years. Based on a 12-moon plan, and yet to keep the seasons from making complete rotations, an intercalary month must be added every 30 months—or twice in five years. Hence, two years out of every five contain 384 or 385 days instead of some 354 days.

As far back as 2254 B.C. the reigning Chinese Emperor ordered his astronomers to ascertain the solstices and equinoxes, to employ intercalary months and to arrange the four seasons, so that definite instructions might be given to the populace as to the most advantageous planting seasons.

At that time, also, a Board of Mathematics was formed, and on the first day of every tenth month a great ceremony was held, when the sacred Almanac was presented to its only rightful theoretical source—the reigning Son of Heaven. He, alone, held the divine privilege of fathoming Heaven's laws. There were always three copies, in Chinese, Man-

churian, and Mongolian. Those for the royal household were placed in a sumptuously decorated sedan-chair and, accompanied by the exalted board, an Imperial Band, and numberless attendants, were carried within the palace. The Officers of the Board made three genuflections and nine prostrations before the Emperor and his family. Following a salute of guns, the Court Eunuchs then handed the holy bindings to the Son of Heaven, the Empress, the Dowager Empress, the Princes, and then to the other dignitaries, waiting in their robes of state. Governors throughout the Empire were next allowed their copies; and the death penalty was meted to any maker of a fraudulent *Book of the Year*.

The two important systems of the Calendar were the Moon Year, of 354 days—the 12 or 13 revolutions about the earth—and the Solar Year, of 365¼ days—the earth's revolution about the sun. Upon the latter depended the seasonal changes. To bring the lunar into correspondence with the solar, an intercalary month was added every 19 years. The winter solstice, now, must fall in the eleventh moon. The summer solstice, in the second, the autumnal in the eighth. The extra month must include the passage of the sun from one Zodiacal sign to another. The first, eleventh, and twelfth moons must not be duplicated.

The Gnomon—a primitive sundial—evolved, of definite assistance in harmonizing the lunar and solar years. By its lengthening and shortening shadows it taught its thoughtful students how to date the summer and winter solstices. Also the spring and autumn equinoxes, when daylight and darkness consumed an equal part of the twenty-four hours.

To mark the hours, long spirals of sawdust and clay burned off their sixty notches somewhat in accuracy. Then a rude clock—the clepsydras—used even now in rural spots, came into being.

Each Solar Year is divided into 24 solar periods of 15 days—"the joints and breaths of the year"—named appropriately as follows: About February 1st comes the Spring Stands. Follow: Rain Water, Excited Insects, Vernal Equinox, and Clear Brightness. The sun entering Taurus brings: Grain Rain, Summer Stands, Grain Fills, and Grain in the Ear. The summer solstice ends the polarite *Yang* half of the year—the lengthening days. Then follow the six months of the polarite *Yin*—the shortening days: Slight Heat, Autumn Stands, Limit of Heat, White Dew, Cold Dew, Slight Snow, Great Snow, etc. The winter solstice is the shortest day. The finishing periods are Slight Cold and Great Cold. Living in China, one finds these seasons very truly named—quite mysteriously so.

There are, as well, Sexagenary Cycles, both of years and of days. These bear names combined by characters from the ten Stems and twelve Branches. The ten Stems are cyclical signs, corresponding in pairs to the five elements—wood, fire, earth, metal and water. The twelve Branches, from the twelve-fold cycle appertaining to animals—rat, ox,

tiger, hare, dragon, serpent, horse, goat, monkey, cock, dog and pig. Sixty different pairs of these characters are combined to name these years, when the two first characters of the Stems and Branches meet again. The Almanac will name the first day of the month, and consecutively the corresponding Sexegenary day. In this way, this same day might be, for example, both the eighteenth and the sixtieth; and the following day the nineteenth and the first. All of this is most confusing, and causes great uncertainty as to research in historical dates.

Adding to these intricacies are other factors. Although the old Calendar computed time from the Emperor Huang Ti—2637 B.C.—every new Chinese Dynasty B.C., and also a few individual Emperors, wished to emphasize their God-given heritage by adopting a different month to begin the established civil year. Some even went so far as to issue a new calendar.

Another factor was the gradual introduction into the calendar of astrological superstitions, which took so firm a hold upon credulous minds that no amount of sound or scientific judgment could completely eradicate their incorporation. There is, for example, in the Lunar Zodiac, The Yellow Road, where early astronomers mapped out 28 constellations of stars—the mystical Palaces of the Moon. Astrologers attached momentous significance to these mansions, and warned the people as to the happy or direful results of undertaking any social or official event upon the day of the moon's resting in any one of them.

The Chinese Pantheon includes twelve Presidents of the Calendar Cycle in charge of the twelve earthly Branches, presiding over months, and watches of the night and day. There is Tai Sui—the God of the Year, whose dwelling, named by the Almanac, is yearly changed. Also Tai Yi—the Absolute—or Great Unity, connected with the Polar Star, and sometimes with the Supreme Being. The Purple Planet—the emblem of the Emperor—remains stable. But the scientific and sentimental inspiration of the Chinese Calendar, in the minds of this Oriental people, is above all else, the Shining Mirror—the unfathomable Queen of Night—the Moon.

The sweeping calendar reform inaugurated by the new Government of China, in the main, has completely failed. It is obvious that the time has come for some simplified form of Almanac to be given to the people. Inasmuch as the Gregorian Calendar has not proved popular, and is practically ignored by them, is it not evident that this is the moment for successfully launching into China the new World Calendar?

REFERENCE BOOKS:

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A Chinese Mirror, by Florence Ayscough. Houghton Mifflin. Two Scientific American Supplements, published in 1910.

DATES, LAW AND RAILWAYS

By Edward F. Flynn

Assistant to General Counsel, Great Northern Railway Company.

FROM a traffic and operating standpoint, the many advantages which will accrue to the railways from the adoption of The World Calendar have been quite thoroughly studied, set forth and explained by previous writers on the subject. From a legal standpoint, however, the railway situation has not been dealt with, although there are numerous reasons to believe that the proposed revision will be of benefit in simplifying the assignment of dates and in other ways.

For instance, if the date of a corporate meeting were fixed in the by-laws of a corporation for the first Tuesday after the first Monday of March, that day on The World Calendar would always be March 5. For another example I am quoting from the laws of one of our states providing for a county commissioners' meeting, which states: "On the Wednesday immediately preceding the second Monday in August, county commissioners shall meet, etc." The same law provides that the meeting shall be concluded not later than the second Monday in August. It can readily be seen that under The World Calendar these days can be set upon certain permanent dates, and, if the same dates were desired in August, they would always be August 8 and August 13 respectively.

Such procedure will probably prevent a great many errors and certainly will be much more convenient and simple than as at present provided. I do not find in any of our statutes that the Gregorian Calendar has ever been adopted as the official calendar, but there are many court decisions which hold the Gregorian Calendar to be our legal calendar. One of the decisions to which I refer holds: "The division of time into years, months, weeks, and days is the calendar division; and it is historically known that the Gregorian Calendar has been generally adopted. Where a division of time is used and no mention of any other system of reckoning time is made, it will be presumed that that calendar is to be used." (62 C.J. 960, *Engleman v. State,* 2 Ind. 91.)

The courts have taken judicial notice of the origin and history of the Gregorian Calendar, as witness the following excerpts from an important decision: *"Origin and history.* Our attention is naturally drawn to the history of the divisions of time into years, months and weeks. It was early discovered, that they were necessary: Observation pointed out that the apparent course of the sun around the earth occupied a period of a little more than 365 days. The changes of the moon naturally suggested the division of months. Among the old Romans, their first king, Romulus, divided the year into ten months, giving to four of them 30 days, and to the rest 31.

It was soon discovered that this did not answer; there were not days sufficient for the sun to perform its circuit, and he inserted as many days as were necessary to bring it up to the year succeeding. His successors abolished this method, and added two new months, to wit, January and February. Thus the year was made to consist of twelve months, numbering 350 days and, to make it agree with the solar period, intercalation—that is, inserting days, was resorted to, and they were intrusted to the Pontifex Maximus, whose duty it was on the first of every month to proclaim (calare) the month, with the festivals occurring in it, and the time of the new moon. From the verb 'calare' originates the word 'calendar,' which means the division of time into years, months, weeks and days, and a register of them. Our almanac is an instance of it. In consequence of the mistakes and negligence of the Pontifex Maximus, great confusion ensued in the recurrence of the festivals, which was endeavored to be rectified by Julius Caesar. His system continued until 1582, when Gregory XIII introduced what is called the new style, and is still in use under the name of the new, or Gregorian Calendar." (*Rives v. Guthrie,* 46 N.C. 84.)

The Gregorian Calendar having been thus legalized, it would be necessary, in order to make some other calendar effective, to have the various states and the United States adopt such new calendar by legislative enactment. This in itself would involve thousands of changes in our various statutes, not only to provide for such adoption, but to make the necessary alterations in dates, etc., that such adoption would require.

I am of the opinion, however, that the good done by the simplification that would be effected by the adoption of The World Calendar would more than offset the time and effort required to make it operative. All dates which might be called "roving dates" would be stationary under The World Calendar.

However, there is one phase of the legal aspect of the adoption of The World Calendar on the affairs of railways and business generally that perhaps has not been given the consideration its importance demands. I refer now to the effect the adoption of The World Calendar would have on existing contracts, agreements, leases and obligations. The provisions of contracts cannot be changed by laws passed subsequent to the execution of such agreements. While it is true most of these contracts run for only a few years, some cover a period of 99 years and others as much as 999 years.

The Constitution of the United States provides: "No state shall pass any law impairing the obligation of contracts." (U.S. Constitution, Article 1, Section 10, Clause 1.) Similar provisions forbidding the passage of statutes impairing the obligations of contracts are found in the constitutions of many of the states. (12 C.J. 987 and cases cited.)

For this reason serious thought and study must be given to the method

to be pursued in making as simple as possible the ascertainment of the dates of The World Calendar which correspond with the dates of the Gregorian Calendar.

If a contract now in force should require the doing of some act such as the payment of money (or the delivery or exchange of property or the thousand and one obligations the performance of which agreements may require) on a certain date, that date should be readily ascertainable. It would be quite simple to arrange a supplemental table to be approved by law. This table could be made a part of The World Calendar, by a supplement attached thereto.

I have prepared such a table which I believe to be accurate. It is not at all complicated. If my conclusions are correct, The World Calendar and the Gregorian Calendar are identical for the first 59 days of each year, except Leap Year. The dates are the same for the first 60 days of Leap Year. From the 59th day (60th in Leap Year) all through the remainder of March, April, May, June, July and August, the dates differ; that is, after the 59th day of the year to and until, but not including, the 244th day of the year, which is September 1 under both calendars. From September 1 to December 30, the 364th day, both inclusive, the days in both calendars are identical as to their respective number from January 1. December 31 under the Gregorian Calendar would be Year-End Day under The World Calendar. The dates for performing obligations or making payments under existing contracts, therefore, would not be changed or affected in any way from January 1 to February 28, both inclusive, nor from September 1 to December 30, both inclusive. In other words, those interested in existing contracts, agreements, obligations, leases, etc., need pay no attention to the Gregorian Calendar for 180 days of the year, but for the other 185 days, they would find a supplemental table of corresponding dates necessary. In Leap Year, from February 29 to the end of June, including Leap-Year Day, the matter would still be somewhat more complicated. A supplemental table for this portion of Leap Year could easily be prepared, and the problem, therefore, would not prove serious or difficult of solution.

In Leap Year from July 1 on until Year-End Day, or December 31, of the Gregorian Calendar, there is no further difference in The World Calendar, as the extra day in Leap Year should be taken into consideration just as at present.

One can readily see the necessity of providing and abiding by such a supplemental calendar, because, if under an existing contract a payment of a million dollars were required to be made, for example, on March 31 of any future year when The World Calendar was effective, there would be no March 31, and the payment would legally have to be made on the 90th day of the year which March 31 is under the Gregorian Calendar and which under The World Calendar will be March 29. Under the Gregorian Calendar August 1 is the 213th day of the year, while under The World Calendar the 213th day is July 31. Again, this apparently bothersome situation is not as serious as one might believe, because most contracts run for only a few years and, as all new contracts after the adoption of The World Calendar will be made under that calendar, soon business would have no further need, except in a small number of cases, proportionately, for reference to the Gregorian Calendar or the supplemental tabulation.

It may be noted that if Year-End Day and Leap-Year Day are made legal holidays, it would merely mean that the same rule regarding contracts, etc., which now applies to holidays, would likewise govern as to these new legal holidays. Also of interest is the fact that the birthdays of those born before the adoption of The World Calendar would be celebrated on the corresponding dates as indicated by the rule set forth above; that is, from February 29 to and until the last day of August, both inclusive, birthdays of those born under the Gregorian Calendar would be celebrated one or two days earlier. From September 1 to December 30, inclusive, there would be no change in birthdays. One born on December 31 would, of course, celebrate his birthday on Year-End Day.

HISTORY OF OUR CALENDAR

By Professor Arthur E. Kennelly

Harvard University

This article embraces the first half of a distinguished paper on "Proposed Reforms of the Gregorian Calendar," read before the American Philosophical Society at its annual meeting in Philadelphia, April 18, 1935. The full text is available in the official "Proceedings" of the Society, which is to be found in most important libraries or may be obtained from the Secretary, 104 South Fifth St., Philadelphia.

IT is proposed to present here an outline of the history of the Gregorian Calendar from the days of ancient Rome to the present time. A calendar, as we here use the term, is a chronological tabulation system for maintaining the historical sequence of successive days with respect to the annual changes in the positions of the sun and/or moon as well as to the established relations of clock time, so that any event, either in the recorded past, or in the expected future, may be assigned its appropriate place in the system.

An almanac is a calendar tabulation for a single year.

Many calendars have been maintained in different countries at different historical periods, such as the Arabian, Chinese, French Republican, and Hebrew calendars. Some of these are still in recognized existence, but the calendar which receives attention here is that which has come to be maintained by the civilised world today, and is known as the Gregorian Calendar.

Every calendar of precision comprises two portions:

1. An astronomical portion, based on astronomical observations and not subject to human modifications or control. Historically, calendars have been (a) *Lunar,* or based upon the synodical month; *i.e.,* the interval between new moons. Only a very few existing calendars are lunar. (b) *Solar,* or based on the number of mean solar days in a tropical year (interval between two successive vernal equinoxes). At a vernal equinox, the sun appears to cross the celestial equator from south to north. The Gregorian Calendar is solar, with lunar vestiges (months). (c) *Luni-solar,* or designed to conform to both lunar and solar periods. The Christian church calendar is luni-solar.

2. A conventional portion, based upon tradition, custom, or agreement, such as the number and names of the months, or of the days in the week. These conventional elements are susceptible of modification by international agreement.

The reform proposed in the Church Calendar relates both to astronomical and conventional portions. The reforms proposed in the existing

Gregorian Calendar relate to conventional elements only, not astronomical.

Historically, our modern calendar is derived from the calendar of ancient Rome, as modified by Julius Cæsar (46 B.C.), Augustus Cæsar (8 B.C.), and Pope Gregory XIII (A.D. 1582).

The Roman calendar was luni-solar in design. It aimed to have the months follow the observed changes in the moon, and the year follow the seasons provided by the sun. The appalling task of reconciling the lunar and solar periods into the almanac for each year was left to the college of pontiffs (pontifices) at Rome. They were appointed for life, and their senior member, the pontifex maximus, announced the dates, ceremonies and festivals of the year. It was known that the mean lunar month, from new moon to new moon, was close to 29½ days; so that alternate months of 29 and 30 days would keep pace, on the average, with every second new moon. Twelve such alternating months would make a year of 354 days which would be about 11 days short of a seasonal solar year. In order to rectify the year, an extra brief month of 11 days would have to be intercalated at or near the end of the year, or a 22-day month every two years. Such a thirteenth or intercalary month of flexible number of days was a common occurrence in the almanac of ancient Rome, under the name of Mercedonius. It was the recognized purpose of the pontiffs to keep the vernal equinox, or passage of the sun across the equator from south to north, on March 25. This could be brought about on the average with the aid of Mercedonius, but not every year.

Although it is believed that the alternation of 29- and 30-day months existed at one period in the Roman calendar it gave place to the following arrangement which was theoretically in force up to the date of Julius Cæsar's dictatorship.

The thirteen-month calendar, sometimes attributed to Flavius, is supposed to have been introduced about 300 B.C. A Flavian cycle of four years had 355, 378, 355 and 377 days, giving an average of 366¼ days, or one day in excess of the seasonal year.

It may be noted that all the regular months, except February, have an odd number of days (29 or 31). This is attributed to the unpopularity of even numbers in Rome during that period. Odd numbers were regarded as more fortunate than even numbers. Even the length of the common year was changed, it appears, from 354 to 355 days, thus throwing it out of conformity with 12 lunations. Some writers consider that February was allowed to keep an even number of days, partly because it came at the end of the list, and partly because it was devoted to the Infernal Gods, and so was exempt from good fortune.

The intercalary month was inserted during alternate years, not at the end of February, but between the 24th and 25th of that month; so that the year always ended with the last days of February.

It is evident that the Roman calendar, up to the time of Julius Cæsar, was irregular and indefinite. Historians have difficulty in assigning dates

TABLE I: Flavian Calendar

Month Number	Name of Month		Days in Month
	Latin	English	
1	Martius	March	31
2	Aprilis	April	29
3	Maius	May	31
4	Junius	June	29
5	Quintilis	July	31
6	Sextilis	August	29
7	September	September	29
8	October	October	31
9	November	November	29
10	December	December	29
11	Januarius	January	29
12	Februarius	February	28
			355
13	Mercedonius Every second year	—	22 or 23
			377 or 378

Non-perpetual calendar used in Republican Rome, from about 300 B.C. up to Julius Caesar's reform in 46 B.C. Luni-solar. Twelve and thirteen months alternately. Subject to variation and adjustment at pontifical will. No weekdays.

[1] The mean Synodical month is now taken as 29.5305881 mean solar days, in A.D. 1900, and very slowly diminishing (about 1 second in 4000 years).

to the changes it underwent between 500 B.C. and 50 B.C. The account here given must be taken with reserve, owing to incomplete historical agreement.

JULIAN CALENDAR

The great leader Gaius Julius Cæsar (102-44 B.C.) was elected to the college of pontiffs when he was about 30 years of age. In 63 B.C. he was elected pontifex maximus, a position he held for the rest of his life. He was thus faced officially with the complexities of the Roman calendar. By that time the almanac had drifted more than two months out of step with and ahead of the seasons. The summer months of the calendar were meeting with the spring season, and the winter calendar months with the autumn season. During his military visit to Egypt (48 B.C.), Cæsar must have come into contact with the Egyptian calendar, which although also luni-solar, was simpler and more permanent than that of Rome. He seems to have decided at that time to reform the Roman calendar. As soon as he was elected dictator in 46 B.C. he set to work upon the reform, aided by the Egyptian astronomer Sosigenes of Alexandria, Egypt. He aimed to restore the vernal equinox or opening of Spring, to the 25th of March, also

to make the new calendar entirely solar, and perpetual, *i.e.* without the intercalary month of Mercedonius. Having ascertained that the best available astronomical estimate of the seasonal year was 365¼ days, he ordained that despite popular superstition, the twelve months of the year should have alternately odd and even numbers, except February, which should have 29 days in common years and 30 days every fourth year. This would make the average year length 365¼ days, as is seen in Table II. All years were to commence on the first day of January. In this way, the attempt to conform with the phases of the moon would be abandoned, and the calendar should automatically keep pace with the solar seasons indefinitely.

TABLE II: Julian Calendar

Month Number	Name of Month		Days in Month	Days in Quarter	Days in Half Year
	Latin	English			
1	Januarius	January	31		
2	Februarius	February	29 or 30		
3	Martius	March	31	91 or 92	
4	Aprilis	April	30		
5	Maius	May	31		
6	Junius	June	30	91	182 or 183
7	Julius	July	31		
8	Sextilis	August	30		
9	September	September	31	92	
10	October	October	30		
11	November	November	31		
12	December	December	30	91	183
			365 or 366		365 or 366

Perpetual and solar calendar set in action by the Dictator Julius Caesar, January 1st, A.U.C. 709 or 45 B.C. Twelve months, no weeks. Fixed year of 365 days. A supplementary day inserted every fourth year, without sequential name, between 24th and 25th February, making average length of year 365¼ days.

To rectify the vernal equinox, Cæsar inserted into the year 46 B.C., not only Mercedonius, but also two new and special extra months, bringing the total length of that year to 15 months and to 445 days. It was called the "year of confusion." January 1, 45 B.C., or 709 A.U.C., launched the first year of the new calendar. There happened also to be a new moon on that date, which was hailed as an auspicious event.

The Julian calendar was a vast improvement over the preceding fluctuating Roman almanacs, that used to vary unpredictably from year to year. The Julian half years varied only between 182 and 183 days, in common years, while in leap years they were equal. The quarters varied only between 91 and 92 days. Except for common Februarys, the months were

all either 30 or 31 days. It was easy to remember which was which, because the odd months—January, March, May, etc.—had all odd-numbers of days (31); while the even months—February, April, etc.—had an even number of days (30), except February in common years. Common years had always 365 days and leap years 366. The extra day of leap year was inserted between the 24th and 25th of February, where Mercedonius had been employed and not at the end of February as at present. In the calendar of Cæsar's time, there were neither weeks nor weekdays, and days were designated by their positions in their respective months. What we call February 25th (when common Februarys had 29 days) was called by the Romans *sextilis* (sixth) before the Calends of March (March 1st inclusive). Consequently, when every fourth year, the Romans inserted an extra or supplementary day just before the 25th of February, they called it the *bissextilis* before the Calends of March, *i.e.* the doubled sixth before March Calends. What we call leap years, they called *bissextile* years, and that name is still used in some of the languages of Europe.

The Julian calendar was a shining epoch in world chronology, not only because it cut loose from the moon, and adhered solely to the sun in the apparent rotation of that body around the zodiac, through the tropical year, but also because it purported to be a fixed and perpetual calendar, free from the intercalations of Mercedonius months every now and then. Such a fixed calendar was of great value in ordering the work of the widely extended Roman empire along the great roads that diverged from the golden milestone in the Roman forum. According to Julian calendar theory of Cæsar's time, the Julian almanac was fixed at 365 days, and twelve months, for an indefinite period into the future. It was understood that in every province of the empire, the bissextile day would be inserted every four years, as an *encore* to the sextilis before the Calends of March, without calling for a special calendar for leap year or change in the regular almanac program. There may also have been popular objections to a year of even number days.

NEW YEAR'S DAY IN ROMAN AND JULIAN CALENDARS

There is abundant evidence that the old Roman year commenced in March, but the day of New Year differed at different historical periods. It may at one time have been the equinoctial day of March 25. At another time it was March 1. The years were commonly associated with the names of the Consuls who held office in them; so that when the new Consuls entered office, there was a tendency to make their date of entry the new year's day. Administrative exigencies affected the date, because special consular duties might require their inauguration date to be somewhat altered. This caused New Year's day to fluctuate accordingly. To eliminate this uncertainty, the rule was adopted about 220 B.C., fixing the

New Year inauguration on the Ides of March (March 15), but as the empire expanded geographically, this was found to be too late in the winter to enable a new consul to take up his duties, with the arrival of Spring, in some more remote province, so the New Year inauguration was changed, in 153 B.C., to January 1, which date remained fixed thereafter in Julian chronology. Cæsar therefore made no change in the date of the Roman New Year's day of his time. In later centuries, however, with the spread of Christianity over Europe, January 1, as a so-called pagan festival, fell into disfavor for the beginning of the year, and various church festivals were adopted in its stead, at different times and places, without otherwise departing from the Julian calendar. It was not until A.D. 1582 that January 1 was restored to its position as church New Year's day by an edict of Pope Gregory XIII, but it was not until 1799 that this restoration over Western Europe was complete. During the middle ages, various dates for the beginning of the year are found in the almanacs of churches and courts, such as Christmas, Lady Day (March 25) and Easter. The usage differed from country to country. In spite of this confusion, however, the Julian almanac, beginning on January 1, seems to have been maintained by historians.

In the year 44 B.C., when the Julian calendar was in full operation at Rome, the Roman senate changed the name of the old fifth month (Quintilis) to Julius, in honor of Julius Cæsar. In the same year (710 A.U.C.), the great dictator was assassinated in the Roman Senate House.

Owing to some mistake in applying the Julian leap-year rule of an extra supplementary day or bissextile day every four years, three leap days too many were introduced into the calendar count during the first thirty-six years of Julian calendar application. The error was, however, detected and corrected by cancelling and withholding three leap days in subsequent years; so that the Julian leap year count was rectified by the year 3 A.D. (756 A.U.C.)

AUGUSTAN CALENDAR

In the year 8 B.C., the Roman emperor Augustus, a nephew of Julius Cæsar, persuaded the Senate to alter the name of the month Sextilis to Augustus. In order to have as many days in Augustus as in Julius, and also to avoid any misfortune attaching to an even number of days in Augustus, its days were increased from 30 to 31, by taking one day from February, which in the pre-Julian calendar had held 29 days. Moreover, since this transfer would have brought three 31-day months into immediate sequence, a redistribution was made of the days in the later months of the year as shown in the next table.

This Augustan modification of the Julian calendar, as shown in Table III, is the same as we now have, the change in A. D. 1582 to the Gregorian

calendar not having affected the distribution of days among the months. It will be seen on comparing Tables II and III, that the changes made by Augustus spoil the Julian calendar both in symmetry and simplicity. In our modern calendar of Table III, the half years differ by at least two days. The months range from 28 to 31 days, instead of from 29 to 31. Instead

TABLE III: AUGUSTAN MODIFICATION OF JULIAN CALENDAR

MONTH NUMBER	NAME OF MONTH		DAYS IN MONTH	DAYS IN QUARTER	DAYS IN HALF YEAR
	Latin	English			
1	Januarius	January	31		
2	Februarius	February	28 or 29		
3	Martius	March	31	90 or 91	
4	Aprilis	April	30		
5	Maius	May	31		
6	Junius	June	30	91	181 or 182
7	Julius	July	31		
8	Augustus	August	31		
9	September	September	30	92	
10	October	October	31		
11	November	November	30		
12	December	December	31	92	184
			365 or 366		365 or 366

Perpetual solar calendar introduced by the Emperor Augustus in 8 B.C. Twelve months and no weeks; but nundinal letters A . . . H, commencing with A on January 1st each year. Supplementary day between 23rd and 24th February, with no nundinal letter, and bissextile denomination.

of having Julius' six short and six long months, we have Augustus' five short and seven long months. Instead of the short and long months following in simple alternation, the Augustan sequence is so awkward, that it is not easy to remember.

DEFECTS OF JULIAN CALENDAR

The Julian calendar, as modified by Augustus, began to show a defect as time went on, for a reason probably beyond Julius Cæsar's knowledge. In 46 B.C., the best available astronomical estimate of the length of the tropical year was 365¼ days (365.25) or 365 days 6 hours of mean solar time. There were no telescopes in those days, and facilities for measuring time were crude by comparison with those now available. More recent determinations [1] have placed the length of the tropical year 365.2422 days, close to 365 days 5 hours 48 minutes 46 seconds, or 11 minutes 14 seconds shorter than the estimate taken by Cæsar. This is not a large discrepancy, but it kept adding up, year after year, in the same direction. The sun

[1] Taken as 365.24219879 for the year 1900 and very slowly diminishing (about 1 second in each 200 years).

would get round to crossing the equator at the vernal equinox each time nearly twelve minutes ahead of the time allowed by the Julian calendar. In five years, the sun would be nearly an hour ahead, and in 128 years, one day ahead. If the sun passed through the vernal equinox in 46 B.C. on the 25th of March, as Cæsar seems to have designed when starting his calendar, then at this rate of change, the vernal equinox would fall on the 24th of March about the year A.D. 80. Spring would thus open about one day earlier on the calendar every hundred and thirty years. When Cæsar faced calendar revision in 46 B.C., the error was in the opposite direction, for Spring opened nearly 90 days late by the old Roman calendar.

In A.D. 325, the Emperor Constantine convoked a general council of Christian prelates at Nicæa or Nice, in Bithynia, Asia Minor, not far from Constantinople. This was the first œcumenical or universal ecclesiastical council of the Christian church, and acquired much historical importance. Its sessions lasted more than two months. Among the many matters discussed, were some relating to the Augustan-Julian calendar. The vernal equinox, which had been associated with March 25 in the early Roman calendar, and had been supposedly restored to that date by Julius Cæsar, was found to fall on the 21st of March, in A.D. 325. This has remained the reference date for the vernal equinox down to the present day. The vernal equinox of 1935 is given as at 13.18 or 1.18 P.M. G. C. T., on March 21.

GREGORIAN CALENDAR

As the middle ages rolled by their centuries, it became increasingly evident that the Augustan-Julian calendar was somewhat too long, and that spring was arriving earlier and earlier in the almanac. Representations had been made to Pope Sixtus IV in the 15th century in favor of reforming the calendar; but no action was taken until February, 1582, when Pope Gregory XIII, having satisfied himself that the equinox had retroceded to the 11th of March, or ten days earlier than on the calendar,* issued a Bull, or decree that the Julian calendar should be superseded by a new and Gregorian calendar. The change was to be made by dropping ten days from the calendar of 1582, and changing the 5th of October to the 15th. Moreover, in order to prevent the recurrence of the error in future, three leap years were to be omitted in each 400 calendar years. In preceding centuries, every centurial year such as A.D. 1500, had been a leap year, because it was evenly divisible by 4; but in the Gregorian calendar, only the centurial numbers divisible by 400 were to be leap years. Thus the century numbers of the years 1600, 2000, 2400, etc., were to remain leap years, but 1700, 1800, 1900, 2100, etc., were to be reduced to common years.

* On one of the Vatican buildings at Rome is a tower called The Tower of the Four Winds (*Torre dei quattro Venti*), not ordinarily open to visitors. In this sixteenth-century tower is a room still called the Calendar Room (*Sala del Calendario*). On the floor a meridian line was laid out and on fine days, a ray of sunlight, admitted through an aperture in the south wall, crossed the meridian line at apparent noon. The astronomer Ignazio Danti was thus enabled to demonstrate to Pope Gregory, in 1581, the ten-day dislocation between the true equinox and the calendar date.

The Gregorian calendar under which we now operate, thus differs only from the Augustan-Julian calendar which preceded, through a sudden jump in the calendar, once for all, of less than two weeks, to rectify the equinox to March 21 and then the above slight change in the leap year rule, which comes into action only in certain centurial years. It has been shown that the leap year correction rule of Gregory is itself incomplete, and that it leaves a small residual error; but this is stated to be only one day in 3300 years, and can be rectified by a special adjustment of the centurial leap year rule in due time.

The astronomers credited with the mathematical work involved in the Gregorian reform are Ghiraldi of Naples and Clavius of Rome.

October 15, 1582, is the epoch which marks the first introduction of the Gregorian calendar. The Gregorian calendar thereafter became known as the "new style" and the Augustan-Julian calendar as the "old style." These styles differed by ten calendar days in 1582. The new style was adopted immediately in Spain, Portugal, Rome and most of Italy. Most of the Catholic countries of Europe adopted it by the end of 1599. Protestant Europe began to adopt new style about 1700. Great Britain and her North American colonies changed together to new style in 1752. By that date the discordance amounted to 11 days, and almanacs of that period show that the eleven days, from September 3 to the 13th inclusive, 1752, were suppressed; so that after Wednesday the 2nd there followed Thursday the 14th. Some riots are stated to have occurred in England at the time, with the mobs shouting for the "return of their eleven days." Later still, the new style was adopted by Japan in 1873, China in 1912, Russia in 1918, Roumania in 1919, and Greece in 1923. It came out in the discussions of the League's General Conference of October, 1931, that there were still communities in Yugoslavia adhering to the Augustan-Julian calendar; so that the adoption of the Gregorian calendar is, perhaps, not quite complete today, more than 350 years after Pope Gregory's "new style" was inaugurated. It is, however, permissible to say that the Gregorian calendar is now in substantially universal use.

In the old Roman calendar, the days of the month were successively marked with the letters of the alphabet ABCDEFGH, the letter A being attached to the first day of the year. These cyclic eight letters were called nundinal letters. This provided a grouping of eight days, or a sort of 8-day week. The 7-day week was imported by the Christians into Roman chronology after the Emperor Constantine brought Christianity to Rome in the fourth century of our era (A.D. 325). In the middle ages, the letters a, b, c, d, e, f, g were commonly retained in Julian almanacs, with a capital opposite the dates of Sundays. This Sunday capital letter was called the Dominical Letter of the year. These alphabetical indications practically disappeared from almanacs after A.D. 1800 in favor of the week-day letters.

The names of the week-days in the Christianized Roman empire followed the planets Moon, Mars, Mercury, Jupiter, Venus and Saturn as still retained in the French Lundi, Mardi, Mercredi, Jeudi, Vendredi and Samedi; but the first day of the week was named for the Lord's Day (Domenica, Domingo or Dimanche). In Britain, the Sun gave its name to the Lord's Day, while the Teutonic deities Tiu, Woden, Thor and Freya took the places of Mars, Mercury, Jupiter and Venus.

For many centuries the Roman era dominated the chronology of the European world. It reckoned in solar years from the traditional epoch of Rome's foundation (A.U.C. or *ab urbe condita*). There is some difference of opinion among historians as to the epoch date. It is, however, commonly accepted that any year N since the accepted date of Christ's birth in the Julian calendar, is year 753 + N A.U.C.; so that A.D. 1935 Julian, is 2688 A.U.C. Any year N in the Julian calendar, before Christ, would be 754 — N A.U.C. Thus, Julius Caesar's death in 44 B.C. occurred in 710 A.U.C.

The Christian Era, with its epoch or starting point at the accepted date of the birth

of Christ, is now so generally used that it is hard to realize that it was long coming into acceptance. Historians declare that expressions such as "In the Year of Grace," or "In the year of our Lord," abbreviated to "Anno Domini" or A.D., were not introduced until A.D. 525, and it was much later before the custom was followed generally. There has been dispute over the date of Christ's birth, over a range of five years, and it is generally believed that the epoch now in use is too late by four years; but whatever the evidence may be, it is most unlikely that any change will be made in the accepted epoch; the confusion in historical literature would be too great.

The custom of assigning dates in the Christian Era before Christ, or B.C., is stated to be still more recent than the use of A.D.

The Julian calendar did not establish a new Era in Rome; it was regarded as a mere rectification of the existing Roman calendar. However, for purposes of astronomical chronology, it was proposed by Scaliger in 1582, to retain the Julian calendar with the epoch at 4713 B.C. (January 1 at noon G.M.T.). The length of each year in this Julian Period Era is just 365¼ days, as assumed by Julius Caesar. The error in regard to the seasons of the year is thus ignored for the sake of simplicity in computation. January 1, 1935, of the Julian calendar is thus 1st January 6648 of the Julian period. In this way, the number of mean solar days between any two events, whose dates are known in Julian reckoning, may be readily computed. The Julian day number for noon G.M.T. on January 1, 1935, is 2 427 804. = (6648—1) (365¼)—13.

OBITUARY NOTES

SIR JOHN SANDEMAN ALLEN, member of the British Parliament and leading figure in the marine insurance world, died in Liverpool on June 3. His interest in calendar reform was shown in the halls of Parliament and in the executive committee of the International Chamber of Commerce. As Vice-President of the Association of British Chambers of Commerce, he was influential in gaining the active cooperation of these bodies in the movement originated by Lord Desborough in the Central London Chamber.

FRANZ VON MENDELSSOHN, senior partner in the Berlin banking house of Mendelssohn and Company, died in Paris on June 13 at the age of 70. A leader in finance and business, he was instrumental in the stabilization of Germany's finances. As a member of the Council of the International Chamber of Commerce, he was long interested in calendar reform.

JAMES BROWN, senior partner in the banking house of Brown Brothers, Harriman and Co., and one of the leading American authorities on domestic and international commerce and finance, died in New York on June 9. He was a prominent advocate of The World Calendar, and inaugurated a study of calendar reform by the Chamber of Commerce of the State of New York.

MELETIOS, Greek Orthodox Patriarch of Alexandria, died in Egypt on July 29, at the age of 65. He had been prominent in the advocacy of calendar reform in his church for a decade, and conferred with representatives of The World Calendar Association in Athens a year ago.

DR. CHARLES R. BARDEEN, dean of the University of Wisconsin Medical School, died at Madison, Wis., on June 12. He had been a member of The World Calendar Association for four years.

BISHOP RALPH E. URBAN of the Protestant Episcopal diocese of New Jersey died in Philadelphia on May 19, at the age of 60. He had been a member of The World Calendar Association for about a year, and was influential in the passage of calendar reform legislation by the Episcopal General Convention in 1934.

ROYAL STATISTICAL SOCIETY

Report of Special Committee on Calendar Reform

Abstracted by CHARLES D. MORRIS

MORE than a year ago the Royal Statistical Society appointed a special committee to study and report upon the statistical aspects of various proposals for the reform of the calendar. Members of the committee were: Dr. L. Isserlis, Chairman; Sir Napier Shaw, L. R. Connor, R. G. Glenday, H. Leak, and Dr. E. C. Rhodes.

Their report, published in the Journal of the Society (Vol. 98, pages 380-2), gives a full endorsement as to the need in modern life for a revision of the calendar. It demands retention of the quarterly division of the year, and condemns as impractical the proposals for a 13-month year.

The first conclusion reached by the committee is stated as follows: "The existing calendar presents real difficulties in statistical work, both in comparisons of statistical material within the year and in comparisons from year to year."

Next, the report deals with the need for a fixed Easter. "Some of the statistical difficulties will be removed by the fixation of Easter. It is therefore desirable that this should be made operative. But Easter cannot be completely fixed unless the calendar is such that the days of the week fall on the same days of the month in all years."

Turning to the problem of general revision, to make the calendar perpetual, the report may be summarized as follows:

"In statistical data which depend on time measurements the order of importance of the units in common use appears to be: (a) day and year; (b) quarter; (c) week and month.

"Quarterly statistics are essential in the case of the data of economics and commerce. These should, in the case of any reform of the calendar, be made more and not less comparable than at present. This consideration appears to rule out completely the proposed year of 13 months. Individual bodies in industry would of course be at liberty to group their statistics in four-week periods.

"It is desirable that the year should have a fixed distribution of weekdays; that is, that Nov. 26 for example should fall on the same day of the week every year. Extra days will have to be introduced. The Rational Calendar Association suggests four quarters each containing three months of 31, 30 and 30 days, the year ending with an intercalary day and containing in leap years a second intercalary day."

The report closes with a discussion of certain minor obstacles to adoption of such a proposal and a consideration of the proposal for intercalary weeks, a proposal rejected by the League of Nations four years ago.

TOWARD A COMMON OBJECTIVE

By CHARLES C. SUTTER

Director of The World Calendar Association

(From the August Issue of the Magazine "World Convention Dates")

THERE are certain types of organization which, lacking a central association, nevertheless need to maintain a close cooperation and understanding, in order to insure that they are working harmoniously and efficiently toward their common end.

In many such cases, a central association would be desirable. But frequently there are definite obstacles in the way. This is particularly true in the case of organizations working internationally. For example, take the case of committees in twenty or thirty countries working for calendar reform. While their cause is practically identical, there are differences in the "structure" of these committees which make the establishment of a central bureau well-nigh impossible. Many of the committees are official, appointed by governments, and it is difficult for such committees to join in any international association with committees which are private and definitely promotional in their aims.

The center of the movement for calendar reform is the League of Nations, which has been dealing with the matter, as a clearing house of research and information, for more than seven years. But the League occupies such an exalted and judicial position that it naturally seeks to avoid any appearance of partisan propaganda in relation to any subject.

Other obstacles to central action by the various international organizations devoted to calendar reform are the language difficulty, the enormous geographical distances between committees in Buenos Aires, Singapore, Constantinople, New York, and Paris, and of course the lack of any large financial resources to provide for the expense of conventions, central secretarial costs, and so on.

Nevertheless, here are more than 20 organizations, scattered throughout the world, each working for precisely the same cause—some engaged mainly in research, others mainly in propaganda. And nobody's work will be effective unless all others advance an equivalent distance at the same time. Probably few causes or objectives have such need for united international effort. For calendar reform can only become a fact if the new calendar is adopted simultaneously by practically every nation.

There are a great many unusual obstacles to be overcome in the adoption of a new calendar. Within each country there is a heavy handicap of inertia, and an equally difficult handicap of ignorance. In England, 183 years ago, when eleven days were dropped in order to bring the calendar back into step with the sun and seasons, there were riots in the

streets and the populace paraded past the parliament buildings carrying signs, "Give us back our eleven days." In Greece today, there are frequent riots over the decision of church and state to make this same change, in order to bring the old calendar of Julius Cæsar into consonance with the improvements of our own Gregorian calendar.

Such difficulties are due almost entirely to ignorance, and must be overcome by a patient and protracted educational effort.

Some of the national committees working in this cause are seven or eight years old; others are comparatively new. The American group, incorporated under the title "The World Calendar Association," was organized in 1930, and has a present membership of more than 8,000. It is by far the largest of all the organizations—the British "Rational Calendar Association" has about 1,000 members, the Rational Calendar Association of Canada has 500. Most of the other national groups consist merely of a central committee, generally appointed originally by governmental action and therefore enjoying a quasi-official status—such as the German National Committee on Calendar Reform, the Italian National Committee, the Swiss and Belgian Committees. France is represented by an organization which is called "Bureau of Studies on Calendar Reform." Turkey has a voluntary committee with close governmental connections. Germany, in addition to its official committee, has two voluntary committees working cooperatively. Latin America has a closely knit chain of nine national committees, which have a central coordinating group under a Chilean scientist.

The American organization, being the largest group, has taken upon itself the task of promoting a unified effort and understanding between the twenty far-flung committees, stretching from Constantinople to Santiago, Chile. This coordinating effort is based on a regular program which embraces:

(1) A constant exchange of letters between the 20 committees, giving full details of each committee's activities.

(2) Exchange of printed matter and circularizations.

(3) An annual visit by the President of the American organization or other delegated official, to as many of the committees as possible, to the League of Nations, and to regional conferences held at convenient centers. A full report of these visits is sent promptly to all committees and is filed with the League of Nations.

(4) Publication of a quarterly Journal—The "Journal of Calendar Reform"—which constitutes an open forum for all the committees to exchange news and views on the subject. (The Journal is published only in English, owing to the enormous expense of duplicating it in French, Spanish, Italian and German. This is admittedly something of a handicap to its largest possible usefulness in non-English speaking countries. But leaders of the movement everywhere are sufficiently familiar with English to be able to read the Journal, and can then pass any desirable material on to their constituencies through their ordinary channels of press and circularization.)

This rough-and-ready method of maintaining inter-Association relationships has been successful. It has resulted in keeping the calendar

committees in twenty countries unified as to aim and purpose.

The type of reform advocated is identical, and it has been important therefore to keep a certain standardization of terminology and detail. This has its difficulties, because of the various languages involved. For instance, such a term as "Leap Year" has definite language difficulties. The English phrase is obscure in origin and has no meaning at all when translated literally into any other language. The usual word for Leap Year in the continental languages is derived from the Latin "bissextilis" (which means literally "second sixth," and was the Roman way of saying that the extra day of Leap Year was to be regarded as a second-sixth-day-before-the-Calends-of-March).

All through the calendar, language difficulties arise. The names of months and weekdays vary widely. Religious feast-days figure largely in the calendars of some countries. Whitsun and St. Sylvester's Day are of the highest calendar importance in certain European countries. The quarterly division of the year is a vital matter in countries with large world-commercial interests, but in Spain and many Spanish-speaking countries the year is also divided into three sections of four months each.

A main task, therefore, in maintaining inter-Association relationships between the calendar-reform groups in twenty countries is to standardize, so far as possible, the terminology of the calendar and of calendar reform. The very title of the proposed new calendar has many variants. It is known in America as the "World Calendar," in England and Canada as the "Rational Calendar," while the Swiss patriotically speak of it as the "Swiss Plan." Latin America knows it as the "Mundial Calendar," while Germans painstakingly call it "the 12-month equal-quarter plan."

The only formal and official conferences dealing with the subject are called at intervals of four years by the League of Nations. Here official delegates to the League meet and go over the progress made toward a new calendar during the intervening period. They are mostly diplomats, rather than calendar experts, and their deliberations are therefore assisted by experts from the various national committees. Thus the quadrennial League meetings become a center for meetings of the world leaders on this subject. The next League meeting will be held in the Spring of 1936.

One of the intricate relationships to be maintained by advocates of calendar reform is that which deals with the churches. Because the calendar touches the churches very closely, and because calendar reform in past ages has been handled customarily by the church, it would be helpful to have church approval for any proposal to inaugurate a new calendar. This means that the inter-association relationships among the twenty calendar reform committees must also include the great central church organizations, and the liaison with the churches must be constantly and punctiliously maintained. The Vatican, for example, has

usually been approached in the past through its calendar expert, the Vatican astronomer, as well as more formally through the Papal Secretary of State. The Eastern Orthodox Church has made several very progressive pronouncements on the subject of calendar reform, and for many years had a formally appointed delegate to deal solely with this matter. The world organization of Protestant and non-Roman churches is the Universal Christian Council, with headquarters in Geneva: it has assigned one of its most active departments to keep up a continuous service of research and information on the subject of calendar reform.

The plans of the American committee for maintaining inter-Association relations have, therefore, included a constant contact with international church organizations. Delegates are sent to important international church conferences, and the inter-Association relationship enables these delegates to carry credentials from all the twenty calendar-reform committees. For example, a priest who recently went from England to Rome to confer with the Vatican on calendar reform actually went as the representative not merely of a British committee, but as the representative also of calendar reform groups from all the Roman Catholic countries in South America, and American and Canadian committees.

The type of inter-Association relationship which has been developed by the calendar-reform committees, under the leadership of the American group, has an enormous value in any world movement. It enables the leaders of the movement to turn a united front almost instantly toward any opportunity for advancing their cause. If an opening for discussion of calendar reform comes, the individual who undertakes the discussion can add enormously to the weight of his address through the fact that he represents not merely a small national group, but also similar groups in all parts of the world. For example, the head of the Canadian calendar reform association recently visited most of the European committees, and while in Germany had an opportunity to speak officially with the Minister of the Interior on the subject. His interview preceded a lecture which he delivered on calendar reform at the University of Berlin. Both lecture and interview were widely featured in the German press, mainly because the Canadian delegate—thanks to inter-Association relationships—spoke not merely for Canada, but for a worldwide opinion.

This outline of a method of maintaining inter-Association relationships among twenty world-wide groups may perhaps require some clarification of the movement for calendar reform. It is a movement which was started about twenty-five years ago, and which in its early stages was pushed to world attention by the International Chamber of Commerce. Twelve years ago it came officially under the aegis of the League of Nations.

It should be noted that the new calendar is one which can be put into effect with practically no disturbance of existing records or systems.

ROMANCE OF THE CALENDAR

By P. W. Wilson

CHAPTER II: THE ORIGINAL THOUGHT

THERE is an instinct among birds, never adequately explained, at which animal psychologists themselves express their amazement. About the end of August, whatever may be the weather, swallows—say in England—migrate southwards and often fly for thousands of miles. At the beginning of April, they are back again—multitudes of them—in their old haunts. These birds, in their simple way, have arrived at a working calendar.

Naturalists watch a waterhole in Africa where wild animals bathe and quench their thirst. Each species—it is seen—has its own hour of the day for visiting the resort, and the giraffes appear on the scene not daily, but every five days. These tall creatures have adopted the N.R.A. week! An observer watched a tortoise in his garden. During the winter it hibernated, but, on the same day for many years, it made its reappearance and solemnly crossed his lawn. This pachyderm had thought things over and agreed—broadly speaking—with a calendar in accord with the sun.

Of our own observation, not one of us can say for certain when or where he was born. It is only in the course of years that the infant faculties of perception and of memory are developed. His birth is thus a fact of which man must hear at second hand. And however learned he may be in other matters, he has to recognize that, on this information, his mother is the highest authority.

Generations of archaeologists are searching for the cradle of mankind. When and where did Mother Nature first rock the cradle? She alone can say and she is one who knows how to keep a secret. Up to the present, this field of inquiry has been no more than one of those guessing competitions in which one person's guess is as good as another's. Was it in Egypt that *homo sapiens* first saw the light of day? Was it in Babylon? Was it as some say in equatorial Africa? Was it in the India where cities of unexpected antiquity have been uncovered?

On one point we can speak with confidence. Primitive man had to improvise his home. He dwelt in caves. He dwelt in trees. He desired a roof of some kind over his head.

Whatever might be man's shelter, he realized that his environment changed from instant to instant. It was always changing. Sometimes it was light. Sometimes it was dark. Sometimes it was hot. Sometimes it was cold. Existence had recurrent phenomena impossible to ignore.

Hence it was that *homo sapiens,* when he stood erect and used his

thumbs in a human manner, was not long in conceiving a certain idea. He realized the value of what we call time. He looked upon time as something to be measured and determined. Without some kind of reckoning of time in his kitbag, man could not take a step in the upward path of progress. There may be still a few communities where the idea of time is so rudimentary that it has not resulted as yet in a calendar. But those communities are classified as savage, not civilized.

The Calendar is thus an ultimate original of remotest antiquity. Some aboriginal communities still have no complete calendar.

There is no edifice—it is scarcely conceivable that there are any remains of an edifice, however fragmentary—that antedates the calendar. To offer one conspicuous instance, it seems to be clear that the Sphinx at Ghizeh—the oldest and greatest single monument ever achieved by man—was carved in an Egypt where, for hundreds and possibly thousands of years, a calendar had been in use. A Hebrew calendar was ancient when Solomon built the first Hebrew temple and, since the last Hebrew temple disappeared at the fall of Jerusalem in the year of our era 70, a Hebrew calendar has been in use for eighteen centuries.

Archaeologists are at the moment greatly agitated over what may have been the earliest alphabet. When did men first substitute a few phonetic symbols for the use of pictures, as writing? And who were these inventive literateurs? Were they Phoenicians? Were they Hebrews? It is not for us here to say.

Enough that the most ancient alphabet, wherever discovered, is modern compared with the calendar. There is no document known among men or conceivably lurking in buried cities that can begin to rival in antiquity the measurement of time. That measurement may be regarded as man's first cultural thought.

It is a fair assumption that the Ten Commandments are more than three thousand years old, nor would anybody of serious intelligence speak lightly of the fundamental moralities that were thundered from the awful summits of Mount Sinai. In authority over the human will, the Ten Commandments—even in days when every man does what is right in his own eyes—have never been and will never be superseded.

The calendar is older than the Ten Commandments by thousands of years, and it has to be added with regret that the calendar is also more generally observed. Many people kill. Many people steal. Many people bear false witness. But few indeed are the offenders who—even if they be murderers and thieves and slanderers—challenge the day of the week, of the month, of the year. In the significance of the calendar, there is something that preceded law as we recognize law, and the calendar is a writ that runs of itself where the law has yet to be accepted and enforced.

Everyone who is anybody has an idea that he knows about Magna

Carta. Compared with the calendar, that scrap of sheepskin, inscribed by order of King John in 1215, is among the latest of documents. The need for a calendar was realized and met thousands of years before the aspirations for political freedom, as we understand that term, began to be expressed in definite terms; and in lands where freedom has never been known, in lands where freedom as an experiment is said to have failed, the calendar is in unchallenged use. Dictators may overawe parliaments and control the press. But they cannot quash the Signs of the Zodiac and the successions of the seasons. It is one thing to abolish votes in a polling booth, quite another to erase dates from newspapers and contracts.

The Declaration of Independence is today among the universals. Everywhere it has influenced and will influence the mind of man. Yet this disruption of sovereignty did not disrupt the calendar. There was a Fourth of July in Philadelphia, and a great day it was. But the very fact that the day has to be known as the Fourth of July, is an admission of allegiance to the month of July, and this allegiance is trans-Atlantic. Is there a Fourth of July only at the White House? The Fourth is still the Fourth at Buckingham Palace and Windsor Castle.

A writing whatever it be that is like the calendar unchanged in its compelling influence over mankind by the promulgation of the Ten Commandments as Law, by the acceptance of Magna Carta as Liberty, and by the Declaration of Independence, must be writing of peculiar adaptability to the race. What is Sinai? A rock jutting in solitude out of a desert. What is Runnymede? An island meadow within one of the world's smallest rivers. What is Independence Hall? In size, it is among the most modest of Philadelphia's public buildings. The calendar pervades all the Sinais—all the Runnymedes—all the Independence Halls that have been, are or ever will be. Here is a charter that was ratified on a speck of planetary dust wheeling through the infinite flow of illimitable space.

The Ten Commandments are law, Magna Carta means liberty, the Declaration of Independence asserts equality, and the calendar, in the even flow of its quiet unassuming utility, is a perpetual witness to all of these three essentials to human happiness. It expresses law. It expresses liberty. It expresses equality.

When a person uses the calendar, he accepts a certain rule. It is an absolute rule. It means that he cannot see by the light of the sun unless he obeys the light by which he sees. Not for an instant can anyone of us escape from his own shadow and the person who supposes that he can change his shadow or abolish it altogether is insane. So much for law.

In the calendar, there is Liberty. Man does not impose this law on fellowman. It is with the sun, moon, and stars alone that the individual has to deal, and the dealings are direct. Alexander the Great visited Diogenes who lived in a tub. "What can I do for you?" asked the con-

queror of half the world. "Get out of my light," answered the philosopher. No authority, however insistent, can intervene between man and time.

Inherent in the calendar is Equality. In wealth, in poverty, people differ. Often the differences are tragic. Time is the same for all. You may have millions. I may have nothing. But, in seconds, minutes, hours, days, months and years, I am as rich as you are. Perhaps I am richer.

We need not be surprised, then, if the use of the calendar has anticipated what, in these days, we understand by Law, by Liberty, by Equality. Without atmosphere, there cannot be life, and time is atmospheric.

There are discussions of the authorship and date of the Book of Genesis as it has emerged into our own literature. With those problems, we are not here concerned. It is enough for us that the Book of Genesis is what it is called—a book of beginnings—a fascinating glimpse into origins, including pedigree, birth certificate and title deeds of the calendar.

Take the pedigree. At the dawn of creation, so we read, "God divided the light from the darkness" and "called the light Day and the darkness he called Night." That evening and that morning were the first day.

The birth certificate. On the fourth day, the calendar began to be apparent. Sun, moon and stars were ordained "for signs and for seasons, and for days, and for years." The final elaboration of the calendar was the week. When "the heavens and the earth were finished and all the host of them," the Seventh Day was set apart as a Sabbath or day of rest.

The title deeds. It was to the Patriarch Noah that these were delivered. Man had endured a flood which we now know to have been historic. He was given an assurance that no such catastrophe in the future would ever be permitted to disturb what may be called the average of the weather. "While the earth remaineth," we read, "seed time and harvest and cold and heat and summer and winter and day and night, shall not cease"—the sign of which covenant is that cooperation of light with water which builds over the landscape a mystical arch radiant with the prismatic glories of the rainbow. It is the record of the rainbow that is certified, year by year, in the calendar.

(To Be Continued)

REGARDING DAYLIGHT SAVING TIME

By Ralf Briton, Moorestown, N. J.

CONVENIENCE of a fixed calendar will be a benefit to nations using daylight saving time, because it will give fixed dates for the beginning and ending of this summer-time period, and will encourage international uniformity. Under the present system, it is customary to begin and end the period at 2 a. m. on a Sunday, regardless of the day of the month. Thus in most countries the dates for beginning and ending shift over a range of seven days. In Great Britain, where a more complicated rule prevails, the dates shift over a 14-day period. Under the proposed new calendar, a longer period of daylight saving might be adopted, perhaps for 26 weeks from March 24 to Sept. 24. The reverse period would be observed in the Southern hemisphere.

EDITORIAL PARAGRAPHS

Calendar reform is becoming urgent. Irregularities in our present calendar make accurate business statistics and comparisons impossible. — Chicago *Rotarian.*

Thoughtless the man must be who advocates dividing the year into 13 parts. Twelve is, of all numbers, the most useful in its divisibility.—Arkansas *Methodist.*

Governors of states, bishops, leaders of industry and university professors are among those who are devoting time and thought to the early adoption of a simplified calendar.—Los Angeles *Saturday Night.*

It is generally conceded that the present calendar is out of date and causes much inconvenience in the world at large and also in the church.—New York *Lutheran Bulletin.*

No doubt Dr. Cadman and the other clerics participating in the movement feel, like many of the laity, that calendar revision of some sort is inevitable, that a change from the present arrangement cannot be averted, and that in facing the situation it would be well to work vigorously for a sensible calendar in order to prevent the adoption of an awkward and grotesque system. — Providence *Journal.*

With such advantages, calendar reform seems certain to come. Hardly an objection has been launched against it. Continued education will eventually remove skepticism.—Asbury Park *Press.*

The subject is of sufficient importance to challenge advanced thinking of statesmen and public thinkers everywhere. It seems almost certain that a 13-month year would be confusing, and that The World Calendar is much more to be desired.—Amsterdam (N. Y.) *Recorder.*

The new World Calendar advocated by the Chamber of Commerce of the State of New York has much to commend it. If adopted, all holidays would be stabilized. Unlike the 13-month plan, this calendar would make the transition from old to new an easy matter.—Sebring (Fla.) *American.*

Most of the major creeds already approve a fixed date for Easter, or at least are willing to discuss the matter sympathetically.—Baltimore Evening *Sun.*

The Chamber of Commerce of the State of New York is convinced that the predominance of evidence is in favor of the revised 12-month year, and that the majority of the people of the world hold a similar view.—Aurora (Ill.) *Beacon-News.*

Increasing demand of business concerns has led various governments to study seriously the various plans for calendar reforms. — Greenwood (Miss.) *Commonwealth.*

It is now understood that there is nearly practical agreement to the 12-month plan. Legislatures in a number of countries have approved it.—Utica *Observer Dispatch.*

Proposals for changing the calendar are gaining ground. Perhaps the most important advancements since 1930 were the progressive steps taken during 1934. Six Latin-American countries endorsed the World Calendar, and many international scientific and church organizations took favorable action. — Wakefield (Mass.) *Daily Item.*

National and international forces have been at work for some time on a program to change the present calendar. Viewed from all angles, a perpetual calendar would go a long way toward steadying the business and recreational life of all peoples.—Bucyrus (Ohio) *Telegraph Forum.*

After the experience of this year surely no shopkeeper or trade organization is in any doubt as to the urgency of having a fixed Easter.—*Scottish Drapery Journal.*

Benefits of The World Calendar are seen as numerous by leaders in business and professional life. They point out its importance in the interests of accuracy.—Bridgeport (Conn.) *Herald.*

Because the present calendar is most unsatisfactory in its relation to world and national, even personal affairs, The World Calendar Association is working toward this sensible new arrangement of our future days.—Danville (Ky.) *Advocate.*

EXCERPTS AND REVIEWS

Action by the Churches

By Dr. S. Parkes Cadman

(Report of the Federal Council's Department of Relations with Churches Abroad)

From the Official Report of the December, 1934, Dayton Conference

WORLD agreement on calendar reform is a field in which the increasing effectiveness of the work of the Research Department of the Universal Christian Council has been demonstrated. The League of Nations requested the Council to discover the attitude of the non-Roman churches of the world toward a proposed stabilization of the date of Easter and the reform of the calendar. The task was undertaken through special financing for this project, which did not burden the regular budget.

For the first time in modern history all the churches of the world have actually been consulted on a specific question and replies are now in hand which seem likely to lead the League to proceed with its plan.

One result will be that instead of having Christians celebrating Easter, Christmas and other festivals on different dates respectively, the whole Christian world will at last be one in at least this particular.

Religious Considerations

By W. E. Harper

Dominion Astrophysical Observatory, Victoria, B. C.

(From an Article in the Journal of the Royal Astronomical Society of Canada)

TWO main proposals for calendar reform are what may be called the 13-month and 12-month plans. The former was first mentioned by the French Philosopher, Comte, afterwards adopted by Cotsworth and given wide publicity by George Eastman. It has been erroneously stated that it received endorsement of the Royal Society of Canada in 1909. It is the scheme, however, which our Canadian government instructed its delegate to vote for at the League of Nations in 1931. Apart from religious grounds, it is claimed there will be objection to its seemingly radical nature, and the possible strength of such opposition would militate against its likelihood of adoption. Then there is the objection to the number 13 not being divisible into the half and quarter years corresponding to the natural division of the seasons. Moreover, the extra cost of having 13 instead of 12 monthly audits, returns, etc., means an 8 per cent increase in certain business costs.

The 12-month plan changes only 7 dates, yet has all the desirable features that business is demanding for comparative statistics.

The only serious objection to revision is based upon religious grounds. There is a break in the 7-day cycle, and against this the Jews, Seventh-Day Adventists and Seventh-Day Baptists protest strongly. They claim that the 7-day cycle has existed since the beginning of things.

It would be doing these Sabbatarians a grave injustice to suggest that they are unreasonable or intolerant. But in the final analysis the majority must decide. With a world membership of 300,000 for the Adventists and an approximate Jewish world population of 15,000,000, it is seen that these opposing parties constitute less than one per cent of the world's population, so they must recognize the rights of the other 99 per cent, should the latter decide for revision.

One cannot but feel that the objections of these people are based upon misunderstanding. Even if we were to accept the six days of Creation in a literal sense as being identical with our days, there would still remain the difficulty of believing in an unbroken continuity of weeks and designated days from the beginnings of world structure to the present. I believe foremost Jewish authorities recognize three different calendar systems as employed at different times in ancient Israel, and so it is hard to agree with those who hold that the present seventh day of the week is the direct descendant of the one observed in the late days of the writer of the Creation story, to say nothing of one dating back to the Creation itself.

I think most Christians would accept the arrangement of the new calendar. I do not think calendar reformers are out to destroy the weekly day of rest, a divine

ordinance which has been of the greatest blessing to mankind. Those opposing reform suggest a revision in which the odd day is held over for five or six years, until seven have accumulated. Such a year would not meet the requirements for comparative statistics any better than the present calendar.

A way out of the impasse would be for those countries which so desire to make one or both of the odd days (Year Day and Leap Day) not only holidays, but religious holidays. This method might overcome the opposition now leveled at reform. Such action would have to be left to each country to settle, as we are speaking in terms of a world calendar and many nations are outside the pale of our Christian religion, having therefore no concern in the question.

The thing we must not do is to try to force this reform upon a world unready for it. We must educate the people to what is involved and what benefits are likely to accrue. In due time the desire for change will become insistent. The years when the scheme could start, with Sunday falling on the first day of the year, are 1939 and 1950.

No Excuse for Thirteen

By E. K. Eason

Secretary Irish Committee for Calendar Reform

THERE is a strange paradox about calendar reform: if we can secure "fixity" there is no excuse for using 13 months; if we cannot secure "fixity" there is no possibility of continuing to use 30 or 31 day months for international statistics.

Firms which are using 13 statistical periods in a year are not using them because they like 13 periods. They are using them because they are dealing with present-day realities and not with the new conditions that would exist if we had a fixed calendar. But many of them have failed to realize that arguments based on the present-day realities of a shifting calendar do not hold good in the different conditions of a non-shifting calendar.

A characteristic feature of modern life is the large scale of operations which involve decisions based upon the reading of compiled data and not upon direct observation of the facts. It is upon the face value of the record that action is taken nowadays. An executive decision is based upon the trend of movement; that is to say, upon a comparison of two sets of data rather than upon the absolute value of one set of figures. The basis of action is the ratio T:Y, in which T represents figures for today, and Y represents figures for yesterday. T equals a period in the current year, of an appropriate length; Y equals a previous period as nearly similar as possible.

There are several rhythms in any particular business. Some daily, some weekly, some monthly, some quarterly, but the majority annually, because the solar year is the predominant unit of time. Because of the variations throughout a year, the important ratio required for accurate judgment is A:B, in which A represents the figures for a period in this year, while B represents a similar period in last year.

In the present shifting calendar we can get no exactly similar periods in any two consecutive years. But where the weekly rhythm of business transactions predominates, a week ending on, say, Saturday, Nov. 25, in one year is very nearly the same as the week ending on Saturday, Nov. 26, of the previous year. Similarly a compilation of statistics for four weeks ending Saturday, Nov. 25, is almost comparable with that for four weeks ending Nov. 26 of the previous year, *provided* that monthly, quarterly or annual figures appearing within the two periods are either negligible or equally comparable.

In statistics within the control of particular businesses it is thus possible, by means of four-week periods, to counteract the shift in the calendar and present statistics containing face-value.

If, however, we eliminate the shifting altogether, as would be done if the perpetual World Calendar were adopted, any period of any length ending on Nov. 25 would be exactly similar to a period of the same length in any previous year. Consequently there would be no necessity of compiling statistics in the cumbersome 4-week periods now used by certain businesses.

So if we get *fixity* through The World Calendar, almost all arguments for the use of a 13-period year collapse.

CURRENT PRESS COMMENT

Business Urges Change

Bridgeport (Conn.) Herald

Business and political leaders throughout the country are renewing their efforts to effect a change from the Gregorian calendar, now in use, to a World Calendar which regulates the 12-month year.

An extensive campaign is being carried on to win for the latter general and world-wide acceptance.

International and national groups, including the International Chamber of Commerce, the World Federation of Educational Associations, the American Bankers' Association, the American Bar Association and the National Academy of Science are behind the move.

"The question is one which can only be disposed of by international action," declares Andrew W. Mellon, ex-Secretary of the Treasury.

Others who have been sponsoring the change are General James G. Harbord, chairman of the Radio Corporation of America; William Randolph Hearst, publisher; and Lammot duPont, president of E. I. duPont de Nemours and Company.

Making Progress

Tampa (Fla.) Times

With no great furore, but with intelligent planning and unremitting effort, advocates of a reformed and more logical calendar are making notable advances toward a goal that has been sought for years, but which heretofore has always fallen just short of accomplishment.

Various state and local chambers of commerce, numerous national and international scientific bodies, and the League of Nations itself, in recent years, have taken cognizance of the increased sentiment favorable to calendar reform; and a recent bulletin of The World Calendar Association reports significant progress.

It is argued that by adoption of The World Calendar, the transition from the old to the new order would be easier because of the retention of the 12-month year. It also would have the advantage of stabilizing religious and secular holidays, and the change could be made with practically no disturbance or disarrangement to business or industry. July 4 would always fall on Wednesday, Christmas on Monday, and so on.

Latest convert to The World Calendar plan is the New York State Chamber of Commerce, which recently unanimously adopted resolutions pledging that organization to the support of the new reform.

Clubwomen Start Studies

Montreal (Canada) Gazette

Clubwomen throughout the United States are being urged to include in their programmes for the coming year a formal study of the history of the calendar.

A 24-page "Study Outline" for use in connection with such programmes has just been issued by Mrs. Margaret Kulp, executive secretary of the Pennsylvania Federation of Women's Clubs. It includes endorsements of the proposed studies by such prominent women as the late Jane Addams, Miss Mary E. Woolley, Congresswoman Virginia Jenckes, Miss Grace Abbott, Mary Roberts Rinehart and Mabel Willebrandt. Even from abroad there are letters from Miss Eleanor Rathbone, member of the British House of Commons, and Mlle. Rozet of the University of Paris.

Desirable and Feasible

Nottingham (England) Guardian

The Nottingham Chamber of Commerce, Lord Trent presiding, adopted the following resolution:

"That the Nottingham Chamber of Commerce being of opinion that irregularities of our present calendar cause many avoidable inconveniences to trade and industry, and in particular vitiate all comparative statistics, expresses its belief that it is both desirable and feasible to introduce a perpetual 12-month calendar, and further expresses the hope that the government and the authorities of the Church of England will make representations to the Vatican with a view to securing assent to stabilization of Easter.

JOURNAL OF CALENDAR REFORM

EDITORS

CHARLES D. MORRIS CHARLES C. SUTTER

Published by

The World Calendar Association, 485 Madison Avenue, New York City

ELISABETH ACHELIS, *President*

VOL. V OCTOBER, 1935 No. 3

WE HAVE recently received a copy of the "Progress Report" of the Rational Calendar Association of London. The membership of this organization has increased by more than 150 per cent in the past 18 months, indicating a rapid growth in British interest and activity as regards calendar reform. Like most British associations, it looks upon the subject of its activity from an Empire viewpoint, and the London group has already been the inspiration for the starting of an energetic organization, under the same name, in Canada—which is probably the precursor of similar offspring in other parts of the far-flung British Empire. Indications of interest in calendar reform are already seen in Australia, South Africa and India.

The effective movement for calendar revision was initiated in England many years ago by Lord Desborough, then president of the great London Chamber of Commerce. As an initial step, Lord Desborough secured the passage by Parliament in 1928 of the Easter Act, providing the necessary legal sanction for the stabilization of Easter whenever the churches were agreed upon the details of this important improvement in the ecclesiastical calendar. Lord Desborough, now nearly 80 years old, is still an advocate of calendar revision, although the burden of leadership has fallen on younger shoulders.

In the report of the Rational Calendar Association, it is stated that the main object of the organization's campaign in England is "to build up a body of authoritative and active opinion in support of a rational reform of the calendar, embodying a fixed Easter and a perpetual 12-month year."

A landmark in the progress of reform in England has been the setting up by the Council of the Royal Statistical Society of a committee of distinguished statisticians to consider calendar reform from the business and statistical point of view. Many Chambers of Commerce throughout England have become enthusiastic supporters of the proposals for a new calendar. Meanwhile, on the side of the churches, advocates of calendar reform include the most important leaders of the Anglican and Free churches, while leadership among English followers of the Roman Catholic faith has been taken by the noted Abbot of Farnborough, whose name appears on the title page of the Latin-English Missal, as editor.

FROM THE MAILBAG

Your suggestion that the calendar be reformed to become a 12-month calendar revised to meet modern requirements, is very interesting and meets with my hearty approval. I will be glad to cooperate in any way possible.—James P. Pope, U. S. Senator from Idaho.

It is a very laudable project. — W. Kynoch, Supt. of Schools, Marysville, Cal.

I hope to see this type of calendar adopted by all countries of the world.—W. A. Myrdal, U. S. Revenue Serv., Fargo, N. D.

We shall study very carefully this important matter.—Alejandro, Bishop of Matagalpa, Nicaragua.

The World Calendar is just the calendar that should be put into effect.—M. M. Mattuch, Ambridge, Pa.

I heartily approve of taking a long-overdue step to bring traditional calendars into line with the present-day facts of human needs.—Rev. F. E. Baker, Louisville, Ky.

This matter, as you are no doubt aware, is one which the International Chamber of Commerce has been pressing for many years and I hope that ultimately we shall be successful.—Arthur Balfour, Capital Steel Works, Sheffield, England.

You are doing a good work.—F. W. McReynolds, Lawyer, Washington, D. C.

I prefer the 12-month plan as the one to which we might most readily adjust ourselves.—Dr. Lacey, Rector, Church of The Redeemer, Brooklyn.

Your Journal is very interesting and highly instructive. — H. Kirn, Foundry Supt., Philadelphia.

I favor the 12-month equal-quarter plan. —Rev. I. F. Bergstresser, Dist. Supt., Evangelical Church, Allentown, Pa.

I have been an enthusiastic calendar reformer for many years. The simplicity of your plan commends it strongly to me and gives promise of achievement without violence to tradition and in a manner quite painless to the habitual fundamentalists. —Walter H. Seely, Swarthmore, Pa.

The plan for a revised 12-month year appeals to me more than one of 13. It would cause less confusion.—Rev. E. G. Black, Flint, Mich.

Have been much interested in your proposal, which seems definitely superior to the present system—or lack of system.—M. R. Eiselen, College of the Pacific, Stockton, Cal.

We received your latest booklet and are very interested in the plan of Calendar Reform. Sincerely we congratulate you on your enterprise.—Mgr. Canuto Jose Reyes y Balladares, Granada, Nicaragua.

Having originally been a 13-month advocate, the arguments in favor of The World Calendar have convinced me that the latter is preferable. — Gano Dunn, Engr., New York.

I am glad to hear that the Chamber of Commerce of the State of New York has voted unanimously for calendar reform along the lines advocated by your Association.—F. H. Fentener van Vlissingen, President International Chamber of Commerce, Utrecht.

Very much interested in your splendid Journal.—J. Welch, Railroad Executive, New York, N. Y.

Keep up the good work.—C. E. Gage, Bur. Agricultural Economics, Washington, D. C.

I am giving you professional support through instruction.—B. A. Sueltz, State Normal School, Cortland, N. Y.

Twelve-month equal-quarter plan is most desirable reform of the calendar ever suggested. — L. L. Benepe, Statistician, State Board of Health, Helena, Mont.

I feel your efforts and purposes are very much worth while.—R. B. King, New York.

Calendar Reform is a unifying principle which will help to unite people.—Mary Macaulay, London, England.

I am keenly interested in the subject, particularly in the World Calendar proposal.—W. R. Gregg, Chief of U. S. Weather Bureau, Washington, D. C.

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Patterson Wardlaw, Prof., Columbia, S. C.
C. C. Whetstone, Public Utilities, Nyack, N. Y.
E. E. Wilson, School Supt., St. Anthony, Ida.
Moses Wolinsky, Statistician, New York City.
T. W. Woo, Student, London, England.
M. F. Zatkovsky, Teacher, Philadelphia.
Richard Zeidler, Teacher, San Francisco.

INTERNATIONAL ORGANIZATIONS FOR REFORM OF THE CALENDAR

ARGENTINA: Comite Argentino del Calendario Mundial, Dr. C. D. Perrine, Chairman, Cordoba Observatory, Cordoba.

BELGIUM: Belgian National Committee on Calendar Reform, Prof. P. Stroobant, Secy., Royal Observatory, Brussels.

BOLIVIA: Comite Boliviano del Calendario Mundial, Don Moises Santivanez, Chairman, Biblioteca Nacional, Sucre.

BRAZIL: Comite Brasilero del Calendario Mundial, Captain Radler de Aquino, Chairman, Rua Raul Pompeia No. 133, Rio de Janeiro.

CANADA: Rational Calendar Association, Erland Echlin, Secy., 268 Glenlake Ave., Toronto.

CHILE: Comite Chileno del Calendario Mundial, Padre Valentin Panzarasa, Chairman, Rector del Colegio Patrocinio de San Jose, Bellavista 0550, Santiago.

COLOMBIA: Comite Colombiano del Calendario Mundial, Dr. Eduardo Posada, Chairman, Consulado General de Honduras, Apartado 42, Bogota.

COSTA RICA: Comite Costarricense del Calendario Mundial (Igualmente de Guatemala, Honduras, San Salvador y Nicaragua), Don Teodoro Picado, Chairman, Ministro de Educacion Publica, San Jose.

DENMARK: Danish Calendar Reform Committee, Countess Benika Reventlow, Secy., Brahe Trolleborg, Korinth, Fyen.

ENGLAND: Rational Calendar Association, C. David Stelling, Director, 38 Parliament Street, London.

FRANCE: Bureau d'Etudes pour la Reforme du Calendrier, Paul Louis Hervier, Secy., 5 Rue Bernoulli, Paris.

GERMANY: German National Committee on Calendar Reform, Ministry of the Interior, Berlin—Der Weltbund fur Kalenderreform, Dr. Rudolph Blochmann, Secy., 24 Lorsenstrasse, Kiel.

GREECE: Greek National Committee on Calendar Reform, Prof. S. Plakidis, Secy., Observatory of Athens, Athens.

HUNGARY: Hungarian Committee for Study of Calendar Reform, Dr. Paul Vajda, Secy., 9 Eotos Utca, Budapest.

IRISH FREE STATE: Committee for Calendar Reform, E. K. Eason, Secy., 80 Mid. Abbey St., Dublin.

ITALY: Italian National Committee on Calendar Reform, Prof. Amedeo Giannini, Secy., Via del Seminario, 113, Rome.

MEXICO: Comite Mejicano del Calendario Mundial, Don Joaquin Gallo, Chairman, Observatorio Astronomico Nacional, Tacubaya, D. F.

PANAMA: Comite Panameno del Calendario Mundial, Don Octavio Mendez Pereira, Chairman, Panama.

SOUTH AMERICA: Comite Latino-Americano del Calendario Mundial, Dr. I. Gajardo Reyes, President, Santiago, Chile. This committee directs the activities of national organizations in Argentina, Brazil, Costa Rica, Mexico, Uruguay, Chile, Bolivia, Colombia and Panama.

SPAIN: Spanish Calendar Reform Committee, Dr. Mariano Doporto, Secy., San Sebastian.

SWITZERLAND: Swiss National Committee on Calendar Reform, Prof. Emile Marchand, Secy., 4 Jenatschstrasse, Zurich.

TURKEY: Committee on Calendar Reform, Prof. Ihsan Ali, Secy., Ayas Pasa Nimet Apt. 3, Istanbul.

URUGUAY: Comite Uruguayo del Calendario Mundial (Igualmente del Paraguay), Prof. Alberto Reyes Thevenet, Chairman, Liceo de Ensenanza Secundaria Hector Miranda, Calle Sierra 2268, Montevideo.

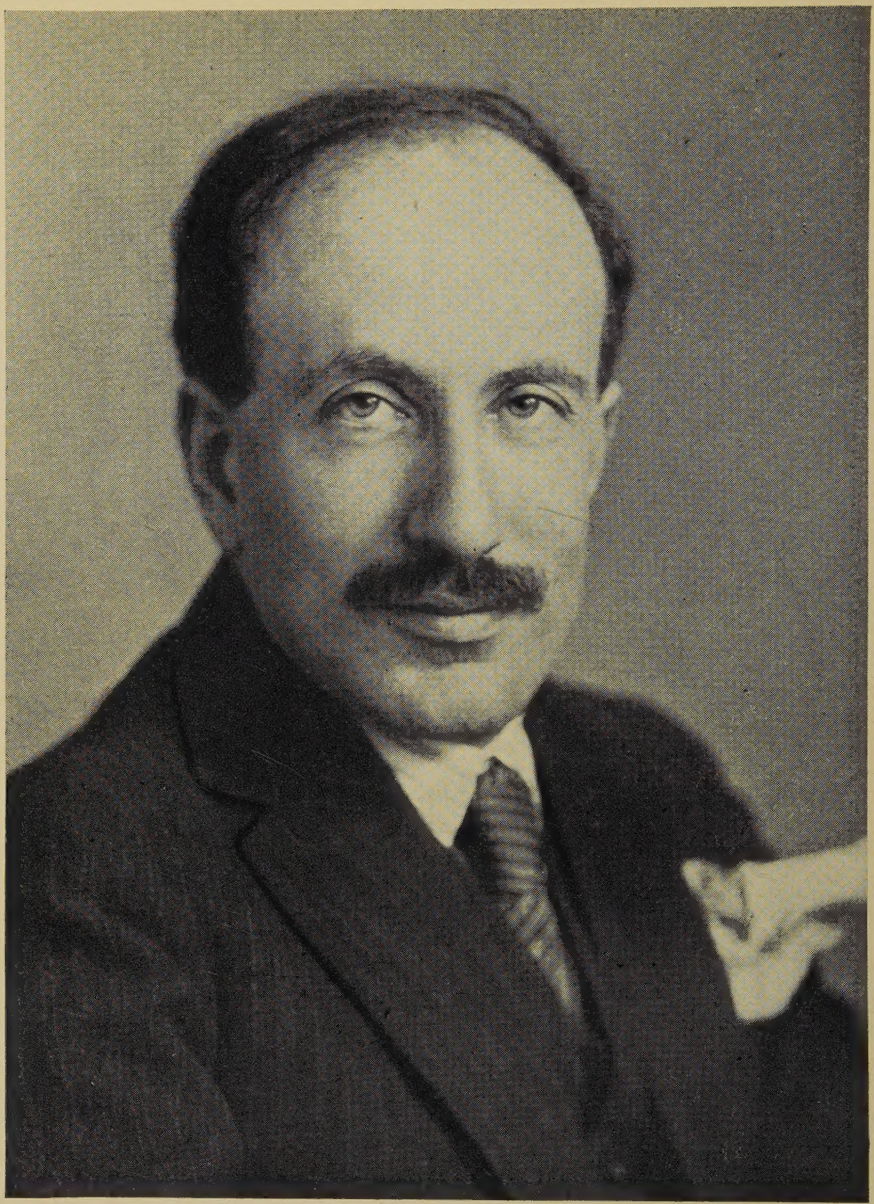
ROBERT HAAS

INTERNATIONAL leader of the calendar reform movement under the League of Nations since 1920, M. Haas was a French subject whose career started in the French Ministry of Public Works. At the close of the World War, although he was only 24 years old, he was appointed a full member of the French delegation to the Peace Conference, being assigned to the responsible post of assistant secretary to the Committee on Ports, Railways and Communications. He became part of the permanent staff of the League of Nations immediately upon its formation, and was virtually the creator of the Section on Communications and Transit, acting as "Chief of Section" from 1920 to 1931, and as Director and Secretary-General from 1931 until his death.

It was largely through his initiative and guidance that the League, at the instance of the International Chamber of Commerce, made calendar reform a permanent objective in its program, assigning to M. Haas's department the task of study and promotion. In 1923 M. Haas set up a "Special Committee of Enquiry into Calendar Reform," and the exhaustive studies made by this committee led eventually, nine years later, to the convening of the 1931 Conference, at which delegates of 44 nations met and solemnly approved, in principle, of a reform of the calendar. During the eight-day sessions of this Conference, M. Haas's untiring activity, skilful leadership and knowledge of procedure guided the delegates and facilitated the progress of the meetings. The final report of the Conference was based on a draft prepared by M. Haas.

M. Haas visited America and conferred with representatives of The World Calendar Association in 1935 regarding the quadrennial meeting of the Commission on Communications and Transit which is to be held in the spring of 1936. His death on Nov. 4, from an embolism, was sudden and occurred in the midst of his preparations for next year's international conference.

By his death Calendar Reform loses a valued guide and the League of Nations a servant whose knowledge and experience it will be difficult to replace. Robert Haas was an ideal League official. The sympathetic vigor of his mind, his knowledge of languages and his quickness in sifting the essential from the inessential, rendered him a tower of strength at the polyglot discussions of the League, while his accessibility, his courtesy and his ready understanding impressed themselves upon all the visitors from many countries with whom he was brought into contact.



ROBERT HAAS

Secretary-General of the Communications and Transit Section of the League of Nations
Died Nov. 4, 1935